Department of Health
and the Welsh Office

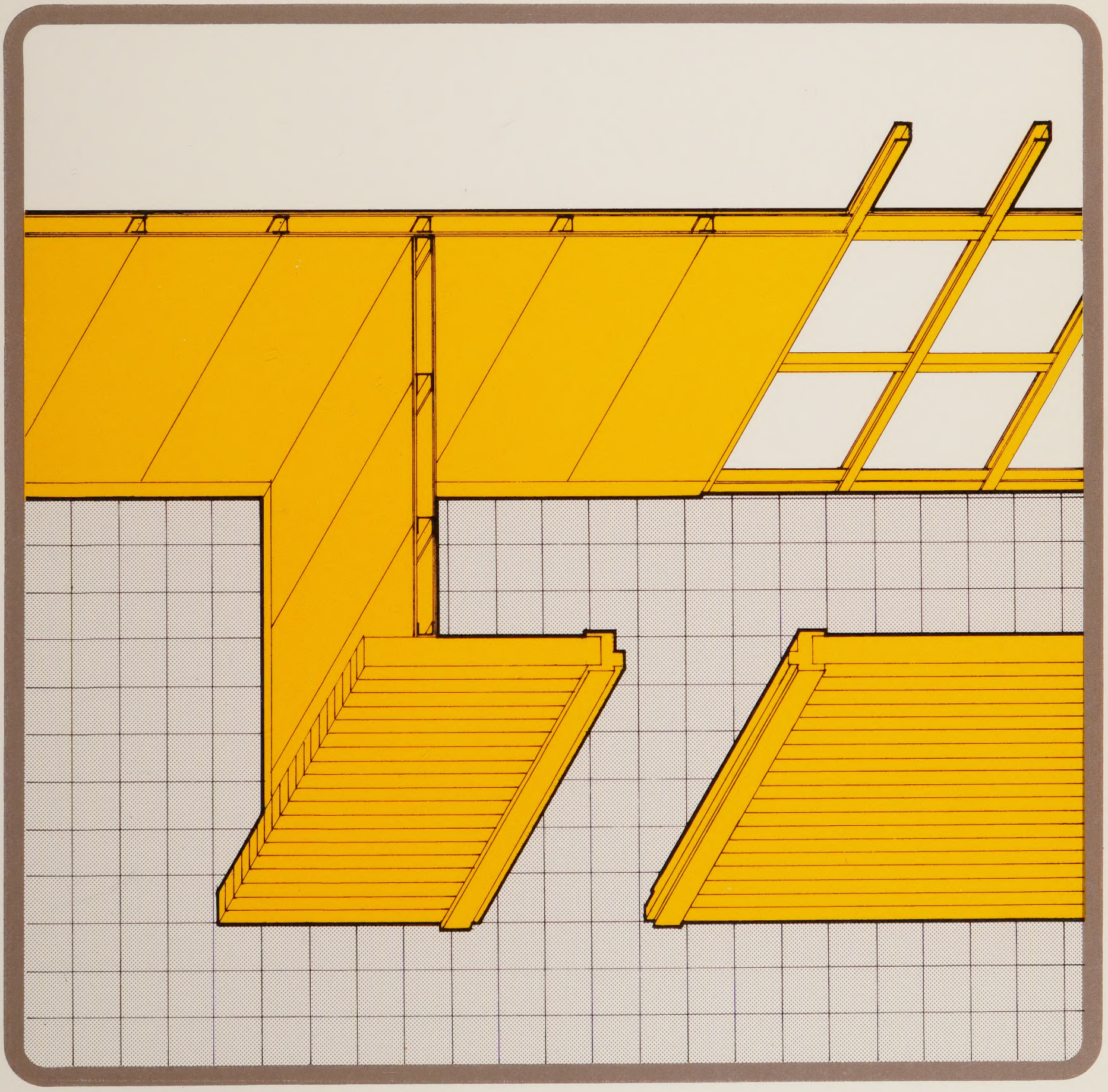
MC0010

Health Technical Memorandum

Building components

Partitions

56



Digitized by the Internet Archive
in 2025 with funding from
UCL Library Special Collections

https://archive.org/details/ucl_mc0010

Department of Health
and the Welsh Office

Health Technical Memorandum

Building components

Partitions

56

London:
Her Majesty's Stationery Office

©Crown copyright 1989
First published 1989
ISBN 0 11 321259 3

Contents

1 Introduction
1.1 Background
1.2 Scope and status
1.3 Relationship to other data
1.4 Terminology

2 Design and specification guidance: partitions
2.1 General
2.2 Dimensions
2.2.1 Height
2.2.2 Length
2.2.3 Thicknesses
2.2.4 Dimensional co-ordination
2.2.5 Deviations and tolerances
2.3 Strength and stability
2.4 Sound reduction
2.5 Fire precautions
2.5.1 Fire resistance
2.5.2 Cavity barriers
2.5.3 Smoke control
2.5.4 Surface spread of flame
2.6 Hygrothermal performance
2.7 Biological attack
2.8 Electrical bonding
2.9 Shielding for radiation
2.10 Protection
2.11 Accommodation of engineering services
2.12 Mass
2.13 Movement

3 Specification guidance: finishes
3.1 Categories of performance of finishes
3.2 Applied wall finishes
3.3 Preparation to receive finishes

4 Project documentation
4.1 Drawings and schedules
4.2 Bills of quantities
4.3 Methods of procurement

5 Site practice
5.1 General
5.2 Fixing instructions
5.3 Programming
5.4 Storage of materials
5.5 Setting out
5.6 Standards of workmanship
5.7 Provision of fixings

6 Maintenance
6.1 Cleaning
6.2 Repairs

Appendices:
A Hollow plasterboard partitioning
B Strength and stability of partitions
C Additional height partitions
D National Building Specification clauses
E Guide to selection of finishes

References

1 Introduction

1.1 Background

This is one of a series of *Health Technical Memoranda* which provide specification and design guidance on building components for health buildings which are not adequately covered by current British Standards.

The series supersedes all Component Data Base Mk 3 (and earlier Manufacturers Data Base) information.

The numbers and titles of the HTM in the series are:

54 User Manual
55 Windows
56 Partitions
57 Internal glazing
58 Internal doorsets
59 Ironmongery
60 Ceilings
61 Flooring
62 Demountable storage system
63 Fitted storage system
64 Sanitary assemblies
65 Signs
66 Cubicle curtain track
67 Laboratory fitting out systems
68 Ducts and panel assemblies
69 Protection
70 Fixings

The technical information in this series is the result of research and development funded by the Department as part of collaborative working arrangements over a number of years between the Department, the NHS, and Industry through the medium of the Component Data Base.

Any enquiries regarding the technical content of this HTM should be directed to Health Building Directorate, Department of Health, Euston Tower, 286 Euston Road, London NW1 3DN.

1.2 Scope and status

This HTM offers guidance on the design and specification of partitions which will meet the general requirements of users and conditions of use in health buildings.

Although this guidance is presented in the context of requirements for non-load bearing partitions in new buildings, much of it applies equally to the alteration or upgrading of existing buildings, to load bearing partitions and walls, and to dry linings to masonry and concrete faces generally.

This HTM does not contain any references to manufacturers, products or services and is intended for guidance purposes only. Its use in no way diminishes manufacturer responsibility for the fitness for purpose of his products, or design team responsibility for selection and application of them to meet project requirements.

1.3 Relationship to other data

The main sources of data used in the preparation of this HTM are listed in the References section.

This HTM was prepared for printing in August 1985 and revised in July 1989, and is based on data current at that date. Readers should ensure that they use the latest edition of all building legislation, British Standards, etc., and give first preference to products and services from sources which have been Registered under BSI Quality Assurance procedures under BS5750 or equivalent procedures.

Suppliers offering products other than to British Standards should provide evidence to show that their products are at least equal to such standards.

Sections of the National Building Specification relevant to partitions are listed in Appendix C.

1.4 Terminology

In this HTM, the following definitions apply:

partition – a non load-bearing internal wall, including any finish, whose primary function is to physically separate adjacent spaces.

non-loadbearing – not supporting loads from other elements of construction (eg upper floor, roof, staircase).

2 Design and specification guidance: partitions

2.1 General

This section offers design and specification guidance on:

- partitions constructed of metal framing and plasterboard, referred to in this and other sections as 'hollow plasterboard partitions' (see preferred specification in Appendix A).
- partitions constructed of bricks or blocks, fair faced, plastered or dry lined, referred to in this and other sections as 'masonry partitions'.

It does not deal with relocatable partitions, which do not meet health building requirements for a jointless surface finish and the housing of engineering services, and are therefore generally more suitable for office type buildings.

It does not deal fully with partitions required to provide radiological protection, which should be the subject of specialist advice, (see 2.9).

The design and specification of partitions should be fully co-ordinated with that for ceilings, which latter in many types of health building are of the suspended type (see HTM 60).

The most appropriate relationship between these two elements is one in which the partitions:

- pass through the suspended ceiling membrane,
- do not require support from the ceiling system,
- combine with the structural soffit to provide fire resisting compartmentation and sound insulation where required; and in the case of hollow plasterboard construction, provide the necessary strength and stability of the partition.

The choice between hollow plasterboard and masonry partitions should be carefully considered in the light of all the design, construction, and performance considerations presented in this section and in section 3.

Where hopllow plasterboard partitions are selected, it is recommended that partitions consisting of 2 x 9.5 plasterboard on each side of 60 studs at 600 centres (as Appendix A) are used, as experience and testing show that these satisfy the majority of requirements in health buildings, including strength and durability, sound insulation and 30 min. fire resistance.

2.2 Dimensions

2.2.1 Height

Given the above relationship between partition and suspended ceiling, the overall height of the framing of a hollow plasterboard partition will be determined by the vertical dimension from top of floor screed to structural soffit whether or not the plasterboard faces are carried up full height to meet requirements for fire resistance and/or sound insulation.

The overall height of masonry partitions will be determined by the vertical dimension from top of structural slab:

- to the structural soffit above, in cases where the partition is required to provide fire resistance and/or sound insulation
- to one course of bricks or blocks above the suspended ceiling panel grid, where fire resistance and/or sound insulation performance is not required.

The overall height of partitions in health buildings does not normally exceed 3600, although this height may be exceeded in situations such as pitched roof spaces (see Appendix C).

2.2.2 Length

Partitioning for health buildings should be capable of being erected in any length between fixed points. By the nature of their materials and form of construction, both hollow plasterboard and masonry partitions meet this requirement.

2.2.3 Thicknesses

Hollow plasterboard partitions constructed in accordance with the preferred specifications in Appendix A have a nominal thickness of 100, with alternative thicknesses of 200 to 300.

Masonry partitions vary in thickness according to brick or block thicknesses (sized to BS 5628 Part 3) and to requirements for fair, plastered or dry-lined faces.

2.2.4 Dimensional co-ordination

The severe limitation which the variability of thickness of masonry partitions imposes on the application of dimensional co-ordination via a 300 drawing grid should be considered when making the initial choice of partition type.

2.2.5 Deviations and tolerances

The following are the permissible deviations and tolerances for partitions with plasterboard or plastered faces, based on those in BS8212.

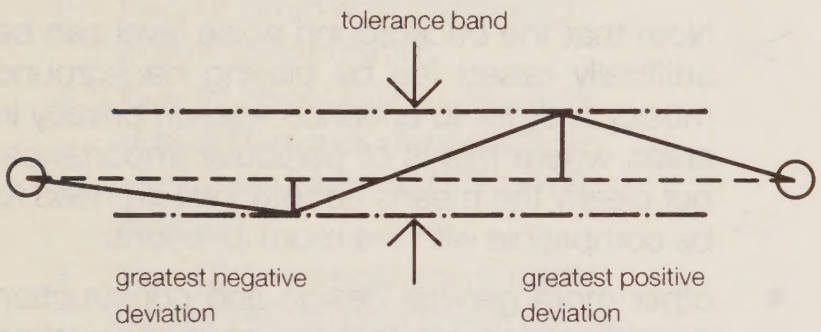
- Permissible deviations from agreed setting out positions

Line of measurement	Deviation
Partition face offset on plan from agreed line or position, measured at the setting out level (ceiling or floor)	3 mm
Partition face offset from the vertical, measured above or below the agreed setting out position	5 mm

- Permissible tolerances in erected partition faces

Line of measurement	Tolerance
Partition face from the straight line connecting the ends of the partition run to lie within a band of	10 mm

The measurements should be taken at approximately 600 above F.F.L. and should include measurements vertically taken at measuring points.



- Permissible deviations in prepared surface (prior to decorative finish)

Line of measurement	Deviation
Between points of contact under a 950 straight edge	+ 3 mm
External angles – projection from face	+ 4mm
Internal angles – projection from face	+ 5mm

- Permissible tolerances in dimensions of openings are:

Vertically	+5.0, –0mm
Horizontally	+10.0, –0mm

- Permissible tolerance in thickness of partitions ± 5 mm

2.3 Strength and stability

Partitions should be capable of meeting the following health building requirements:

- A large heavy person leaning against a partition, or standing on a ladder leaning against a partition, should not flex the partition to such an extent that it appears visibly unsafe, causes cracking in the surrounding finishes, or causes an unacceptable degree of movement in shelves, worktops etc, fixed to it.
- Door slamming should not cause damage to a partition or its finishes.
- Heavy impacts caused by mobile equipment or vehicles, should not displace a partition, cause its collapse, or cause damage not easily repaired.
- Soft body impact caused by shoulder impact or by persons falling against a partition should not damage it.
- Hard body impacts from trolleys, wheelchairs etc, should not perforate the partition, nor cause damage that cannot be easily repaired.
- Fixings for lightweight items such as mirrors, small fire extinguishers, and towel dispensers, may be required anywhere on the face of an unreinforced partition.
- Fixings for heavyweight items such as wash basins, worktops, cupboards and shelving may be required. These may take the form of additional framing in hollow partitions or special fixings in lightweight masonry partitions. Factors of safety of between 2 to 4 should be taken into account when determining fixings into masonry partitions.
- All sanitary appliances are required to support a live load of 140 kg, which may need to be supported by the partition.
- Differential pressures caused by air movement around and through the building should not cause any perceptible movement in the partition. This may require particular consideration to be given to the perimeter fixings of hollow plasterboard partitions.

Masonry partitions constructed in accordance with BS 5628 and hollow plasterboard partitions constructed in accordance with the specifications in Appendix A should meet the above conditions.

With regard to the fixing of basins, sinks or urinals to hollow plasterboard or soft plastered masonry partitions, consideration must need to be given to the fixings to avoid indentation by brackets or fixing plates. The use of plastic laminate faced back panels, also acting as splashbacks is recommended. Additional framing and trimming may be required in hollow partitions.

See Appendix B for details of tests covering the foregoing requirements. Test evidence should be obtained to cover hollow plasterboard partitions and thin or lightweight masonry partitions.

2.4 Sound reduction

Non-loadbearing partitions can be grouped into the following grades according to their ability to provide certain minimum levels of airborne sound insulation.

Grade	Minimum airborne weighted sound reduction index (BS 5821) dB(Rw)
A	no requirement
B	33
C	38
D	43
E	48
F	53

The following matrix of activity spaces has been compiled to assist the design team in determining a suitable sound insulation grade (see above) for some common partition situations in clinical areas. These relate only to the partition between any two adjacent spaces.

Airborne sound insulation matrix	Consulting rooms	Examination rooms	Treatment rooms	Speech therapy §	Offices	Seminar rooms	Single-bed wards	Multi-bed wards	Day rooms	Nurseries	Toilets & bathrooms	Utility rooms	Ward pantries	Plant motor rooms
Consulting rooms	D	D	★	E	D	E	D	F	F	★	E	★	E	★
Examination rooms	D	D	F	E	D	D	D	F	F	★	E	★	E	★
Treatment rooms	★	F	D	★	F	E	★	E	D	D	E	D	E	★
Speech therapy §	E	E	★	E	E	F	E	★	★	★	F	★	F	★
Offices	D	D	F	E	E	D	D	E	E	F	D	F	D	★
Seminar rooms	E	D	E	F	D	C	E	D	D	E	D	E	C	★
Single-bed wards	D	D	★	E	D	E	D	F	F	★	E	★	E	★
Multi-bed wards	F	F	E	★	E	D	F	D	D	E	E	E	D	★
Day rooms	F	F	D	★	E	D	F	D	C	D	E	D	D	★
Nurseries	★	★	D	★	F	E	★	E	D	D	E	D	E	★
Toilets & bathrooms	E	E	E	F	D	D	E	E	E	E	D	E	D	★
Utility rooms	★	★	D	★	F	E	★	E	D	D	E	D	E	★
Ward pantries	E	E	E	F	D	C	E	D	D	E	D	E	C	★
Plant motor rooms	★	★	★	★	★	★	★	★	★	★	★	★	★	A

§ Speech therapy excluding Audiometry

Relationships between activity spaces indicated by ★ in the above matrix should be 'designed out' because satisfactory sound insulation of a partition between may require special construction.

The above matrix covers the most common and representative types of activity space in health buildings. The performance requirements of others not included can be determined by consideration of the following:

- some examples of the relative effectiveness of sound reduction between rooms with low levels of background noise are:
  33dB – normal conversation will be heard clearly
  43dB – normal conversation may still be intelligible
  53dB – normal conversation will be audible but not intelligible.
- the higher the level of background noise in a room, the lower the sound reduction value needs to be in order to maintain speech privacy (down to approximately 40dB).
- the background noise level in a room is a combination of noise generated within the room, and that coming into the room from adjacent rooms and from the external environment. Typical background noise levels are:

	dB
quiet bedroom	30
average small office	45
busy restaurant	58
average conversation	65
loud radio music	82

  Note that the background noise level can be artificially raised (eg by playing background music) in order to enhance speech privacy in areas where this is of particular importance, but clearly the means adopted would need to be compatible with the room functions.
- other more general design and construction considerations are that the sound insulation performance of a partition will be significantly reduced if:
  - perimeter junctions with other elements, and around pipes and ducts are not adequately sealed
  - doors and/or internal glazing of lesser sound insulation performance that that of the partition are introduced
  - ducts are not fitted with sound attenuators at the point of penetration of the partition
  - engineering terminals are located back to back.

  Note: adequate sealing of perimeter junctions of partitions in the higher performance range will call for the use of a continuous seal applied at the construction stage.

However, this guidance is general only as the question of sound insulation is a complex and sometimes subjective matter and the solutions chosen must be subject to the project requirements.

The following is a table of sound reduction performance of hollow plasterboard partitions based on tests:

Grade	Construction	dB(Rw)
C	One 12.5mm wallboard each side of 70mm studs	38
C	One 15mm wallboard each side of 70mm studs	41
D	Two 9.5mm wallboards each side of 60mm studs	43
D	One 12.5mm wallboard each side of 70mm studs with 25mm (min) glass fibre mat (11Kg/m^3) in cavity	44
D	One 15mm wallboard each side of 70mm studs with 25mm (min) glass fibre mat (11Kg/m^2) in cavity	45
E	Two 9.5mm wallboards each side of 60mm studs with 25mm (min) glass fibre mat (11Kg/m^3) in cavity	48
E	Two 12.5mm wallboards each side of 70mm studs	48
E	Two 12.5mm wallboards each side of 146mm studs	52
F	Two 12.5mm wallboards each side of 70mm studs with 25mm (min) glass fibre mat (11Kg/m^3) in cavity	53
F	Two 12.5mm wallboards each side of 146mm studs with 25mm (min) glass fibre mat (11Kg/m^3) in cavity	54

The following is a table of sound reduction performance of masonry partitions calculated on the basis of their mass:

Grade	Construction	Mass kg/m^2	dB
B	75mm hollow clay blocks plastered both sides	107	36
B	112.5mm brickwork unplastered	220	35-40
C	75mm clinker blocks plastered both sides	146	41
D	112.5mm brickwork plastered both sides	270	45
E	225mm brickwork plastered both sides	500	50
E	175mm dense concrete plastered both sides	460	50
F	337.5mm brickwork plastered both sides	700	53
F	450mm brickwork plastered both sides	925	55

The final choice of grade of partition may be influenced by variety reduction. This could result in some cases where slightly less than the desirable sound reduction is achieved.

2.5 Fire precautions

2.5.1 Fire resistance

The resistance of partitions in health buildings to collapse, passage of flame, and transference of heat when exposed to fire, must meet the requirements of the Building Regulations and of DHSS guidance, particularly HTM81.

The following notes are intended to act as a (by no means exhaustive) guide to the building designer in meeting the requirements of the Building Regulations and DHSS guidance specifically concerned with fire precautions.

- As indicated in **2.1**, the preferred arrangement in health buildings is one in which fire resisting partitions pass through suspended ceilings to the soffit of the structural floor above, and suspended ceilings play no part in protecting the structure.
- Experience has shown that hollow plasterboard partitions may sometimes be vulnerable to reduction of performance by insertion of engineering services and/or combustible materials in the cavity. Therefore partitions required to have one hour (or more) fire resistance, should be of masonry construction, with any engineering services which cannot be 'designed out' mounted on the face, and if necessary, concealed in ducts or behind dry linings.
- Hollow plasterboard partitions constructed in accordance with the technical details in Appendix A are suitable for situations calling for half-hour and one hour fire resistance.
- Engineering services within or passing through fire-resisting partitions (whether of masonry or hollow plasterboard construction) should (a) be kept to a minimum and comply with the Building Regulations and DHSS guidance in respect of size and specification of pipes, and (b) be fire stopped to a rating equal to that of the partition (see **2.11**).
- All perimeter junctions between fire resisting partitions and other structural elements must be similarly fire-stopped.
- Automatic fire dampers must be fitted in ducts where they pass through fire resisting partitions.
- Refer to the Building Regulations for notional periods of fire resistance for masonry partitions.

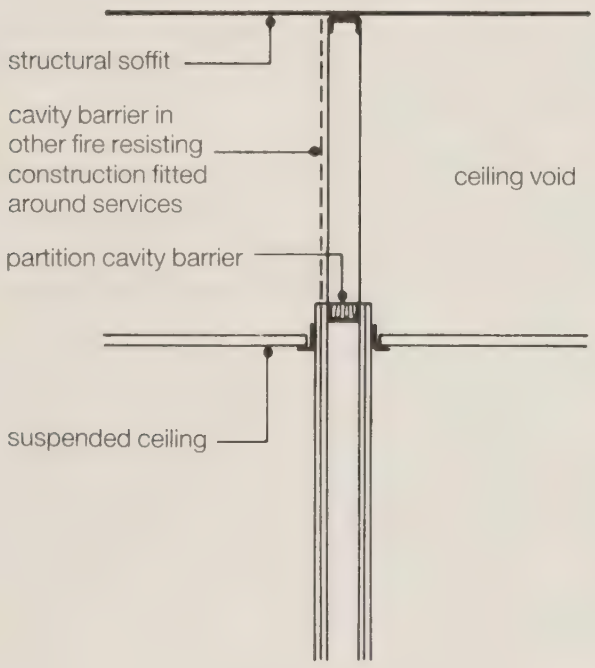
2.5.2 Cavity barriers

Cavity barriers are required in hollow plasterboard partitions to prevent the passage of smoke and flame along continuous voids.

These should be located:
a) immediately above a fire resisting suspended ceiling if the plasterboard faces terminate there, to disconnect the partition void from the ceiling void
b) at intervals along the length of a partition to sub-divide the partition void
c) at openings in the partition.

The above requirements also apply to dry linings to masonry partitions.

Cavity barriers may also be required to sub-divide the void between suspended ceilings and the structure above within a sub-compartment to achieve the maximum dimensions between such cavity barriers required by the Building Regulations. In some cases these can be provided by upward extension of partitions to the structural soffit, in others, by separate infill of the void. In both cases it will be necessary to adopt a form of construction which has the necessary half hour fire resistance and facility for cutting and fire stopping around engineering services.



2.5.3 Smoke control

The extent to which spread of smoke has been the cause of fatalities in health buildings is not as yet adequately covered by technical data or means of control. Thus fire stopping as referred to above is the only essential means of controlling the spread of smoke.

2.5.4 Surface spread of flame

Vertical surfaces in health buildings are generally required by the Building Regulations to have a surface spread of flame rating of Class 0.

Class 0 is not strictly a surface performance characteristic, as its definition in the Building Regulations refers to the combustibility of materials with requirements that:

- the material of the partition shall be of limited combustibility throughout; or
- the surface material (or, if it is bonded to a substrate, the surface material in conjunction with the substrate) shall have a surface of Class 1 (BS 476: Part 7) and indices of performance (I) max 12 and (i_1) max 6 (BS476: Part 6).

The surface of any plastics material, having a softening point not exceeding 120°C (BS 2782), shall not be regarded as Class 0 unless:

- when bonded to a non-plastics substrate, they satisfy the above requirement, or
- when bonded to a plastics substrate, having a softening point exceeding 120°C, they satisfy the above requirement and the substrate alone, if exposed as the surface finish, would also satisfy the above requirement.

Note that Class 0 surface spread of flame is not included in British Standard 476.

Site applied finishes may change the surface spread of flame characteristics of the partition and test results should be obtained from the finishes manufacturer (see **3.1**).

2.6 Hygrothermal performance

Partitions for general use, in areas of normal humidity, with their finishes, should be capable of withstanding:

- 25% to 65% Relative Humidity over a temperature range of 10°C to 25°C.
- intermittent contact with water and water vapour.

Partitions for use in areas of high humidity, with their finishes, should be capable of withstanding:

- 25% to 100% Relative Humidity over a temperature range of 10°C to 30°C
- sustained contact with water and water vapour.

The temperature ranges apply to indoor ambient air temperatures in occupied buildings. More onerous conditions may be encountered in the vicinity of heating and cooking appliances where rapid changes from 0°C to 25°C have been known to coincide with humidity levels down to 25% RH.

Performance criteria for the normal range of health building conditions of use are given in Section 3, but manufacturers of proposed surface finishes should be consulted regarding limitations of performance of their products in the more onerous conditions.

A guidance note on the storage of materials prior to installation are given in Section 5.

2.7 Biological attack

Partitions should not comprise materials which promote or sustain the growth of fungi, micro-organisms, or insects.

Hollow plasterboard partitions are generally unsuitable for kitchen, larder, wash-up or other similar areas due to the possibility of vermin or cockroach infestation in the partition cavities and wet conditions affecting the plasterboard. Solid masonry construction is preferred in these situations.

A typical specification clause regarding biological attack is given in Appendix A.

2.8 Electrical bonding

All electrical installation work must be wired in accordance with the current edition of the IEE regulations for Electrical Installations.

2.9 Shielding for radiation

Hollow plasterboard partitions are not suitable for areas containing X-ray and other forms of radiation emitting equipment which require shielding. Heavy masonry construction with or without barium plaster finish is the generally preferred solution for these areas. However, in situations where a hollow framed type of partitioning must be used, lead cored plywood panels or barium plaster on expanded metal lathing can be substituted for a layer of plasterboard; and the partition framing strengthened to accept the additional weight. Specialist advice should be sought from the Regional Radiological Protection officer and from the suppliers of the equipment.

2.10 Protection

Protection against mechanical damage should be considered in all areas where the partitions may be subjected to hard body impact from mobile equipment.

It is recommended that:

- at the design stage, consideration should be given to the nature and volume of traffic, and consequent requirements regarding the configuration of circulation routes, and corridor and doorset widths, which, if inadequate, can be a substantial contributory cause of damage
- design stage consideration should also be given to applied protective measures in the form of buffer rails and corner guards, and the necessary provisions for fixing them. The following is intended to give a general indication only of such requirements.

Purpose	Type	Height above FFL	Locations
Surface protection	Buffer rails	800 to 1000 mm	Main corridors, trolley bays, ward kitchens, main kitchens, bed heads
Arris protection	Corner guards	FFL to at least 1000 mm	Areas where trolleys or heavy mobile equipment are likely to be used
		FFL to at least 2000 mm	Areas where high mobile equipment eg linen trolleys are likely to be used

- design stage decisions involving partitions should cover doorsets, ironmongery, and internal glazing, and should be co-ordinated with commissioning decisions regarding selection of mobile equipment and requirements for buffering
- protection measures should be reviewed when the building has been in use for a reasonable period and the success or otherwise of the earlier decisions are apparent.

2.11 Accommodation of engineering services

The 60mm void in a 100mm hollow plasterboard partition (as detailed in Appendix A) will accommodate the majority of electrical and piped services. However, the diameter of such services running horizontally will be limited by the 38mm width of knock-outs in the metal studs.

Where the 100mm partition does not provide sufficient space, consideration should be given to 110,120, 140 or 200 to 300 thick partitions.

Pipework must be tested and accepted before the partition is finally boarded up. Access should be provided for maintenance and repair. If, for any reason, it is not possible to provide access to services, pipes should be installed in unjointed lengths. Particular care is required with gas installations.

Pipes and conduits should generally be held securely in position by fixings within the cavity.

The provision of fixings and chases for services in masonry partitions must conform with the recommendations of BS 5628.

Recommendations for the provision of certain bed head services are conatined in HTM68.

Fire resistance and/or sound insulation performance can be impaired by inadequate detailing of engineering services in partitions. Services in partitions must comply with the recommendations of HTM81.

Back to back positioning of engineering terminals should be avoided wherever possible, particularly in Fire resisting partitions.

Panel assemblies for sanitary appliances should be set in recesses which do not reduce the fire-resistance of the partition.

In hollow plasterboard particularly if back to back locations are unavoidable the following solutions have been proven by tests to BS476 Parts 20 and 22 for at least 30 mins. fire resistance.

- Provide noggings to all sides of boxes.
- Increase studs to 70mm thick thereby allowing a 10mm air space between backs of boxes.
- This space may be filled with 9.5mm plasterboard to increase fire resistance.
- If it is not possible to increase the studs to 70mm thick, then 2mm graphite based intumescent sheet placed between the backs of boxes will give well over 30 mins. fire resistance.

Similar parameters apply to service terminals in masonry partitions. Evidence on Fire Resistance should be sought from the blockwork manufacturers for back to back situations.

Appendix A illustrates some of these details.

2.12 Mass

Health building structures designed in accordance with the recommendations in BS 6399: Part 1 will have had the actual weights of partitions included in their calculations, or an appropriate allowance for loads imposed by partitions whose exact position is not known. The minimum allowance recommended in the standard is 1 kN/m^2, being equivalent to a partition weight of 305 kg/m run. Partitions exceeding the following limits will necessitate special attention to the building structure.

Height mm	Mass kg/m^2
3600	84
4200	72

2.13 Movement

Deflection of upper floor and roof slabs can sometimes cause appreciable stress in partitions. Where such deflection is likely to occur, the partition to structural soffit junction detail must be designed as a movement joint.

However the partitions with such details should still comply with the test standards in Appendix B.

Masonry partitions must be provided with movement joints at frequent intervals in their length, in accordance with BS 5628 Part 3.

Similarly, where partitions cross a movement joint in a structural floor or roof slab, they should be provided with a movement joint at the same point and capable of the same range of movement as the floor or roof joint. Note that the jointing material to the partition will need to match the relatively low mechanical strength of partition materials.

Hollow plasterboard partitions may be able to accept minor structural movements. The manufacturers or sponsors of each system should be consulted for advice.

3 Specification guidance: finishes

3.1 Categories of performance of finishes

Six performance categories have been established as a means of relating user requirements for wall finishes to the physical and performance characteristics of finishes available on the market. These categories are used as a convenient method of stating user requirements in the Guide to the selection of finishes in Appendix E and in the Activity Data Base and Nucleus Data Packs.

Physical and performance characteristics	Categories of performance of finishes					
	1	2	3	4	5	6
Impervious	•	•	•	•		
Jointless	•	•	•			
Smooth	•	•	•	•		
Moisture resistance:						
high humidity		•		•		
normal humidity	•		•		•	•
Cleaning routine						
A	•					
B		•	•			
C				•	•	
D						•

The physical and performance characteristics of wall finishes may be defined as:

- impervious – able to resist the penetration of water, solutions containing detergents, disinfectants and other liquids likely to be encountered in health buildings
- jointless – without joints or having joints which are sealed by methods and materials which make the whole surface impervious and prevents the collection of dirt and bacteria in the joint
- smooth – no coarser than brush applied matt emulsion paint on a flat plastered surface without projections, indents or holes part way through the material
- moisture resistance:
  - high humidity – 25% to 100% relative humidity over an air temperature range of 10°C to 30°C, and able to withstand sustained contact with water and water vapour.
  - normal humidity – 25% to 65% relative humidity over an air temperature range of 10°C to 25°C, and able to withstand intermittent contact with water and water vapour.
- cleaning routines – capable of withstanding the appropriate indicative cleaning routine, as set out below:

	Daily	Weekly	Periodically
A	Washing or spray-cleaning with water containing a neutral detergent (disinfectants may be required in certain areas		
B		Cleaning with a damp mop containing a neutral detergent, or with a suction cleaner with suitable attachment	
C			Quarterly or longer cleaning with a damp mop containing water and a neutral detergent, or with a suction cleaner with suitable attachment
D			Quarterly or longer cleaning with a suction cleaner with suitable attachment

NB: Surface spread of flame:
Applied finishes may change the surface spread of flame characteristics of the partition and test results should be obtained from the finishes manufacturers.

For Building Regulation requirements for surface spread of flame for health buildings see **2.5.4.**

3.2 Applied wall finishes

The finishes listed below are suggested as the minimum acceptable for the categories indicated:

Wall finish	Categories of performance of finishes					
	1	2	3	4	5	6
Liquid coverings						
Epoxy coating	•	•	•	•		
Paint:						
Emulsion – matt, silk					•	•
Oil – gloss	•	•	•	•	•	•
– semi-gloss, eggshell					•	•
Vinyl – gloss					•	•
Polyurethane coating	•	•	•	•		
Spray elastomeric vinyl compond	•	•	•	•		
Spray paint (multi-colour) gloss	•	•	•	•	•	•
Flexible pre-formed coverings						
Cloth backed vinyl covering	•	•	•	•		
Paper backed vinyl					•	•
Pvc sheet (1mm thick with welded joints	•	•	•	•		
Wall paper						•
Wall paper with spongeable surface					•	•
Hard pre-formed coverings						
Ceramic tiles – cement grouting				•		
epoxy grouting	•	•	•			
Plastic laminate with sealed joints	•	•	•			

In each category several suitable finishes are listed. It is necessary for the specifier to consider the properties of the various materials in respect of:

- Durability
- Resistance to fungal and bacterial attack
- Resistance to cracking
- Resistance to abrasion.

Only then should the final selection be made.

Finishes should be selected with full consideration of capital cost and subsequent maintenance costs.

Consideration should be given to the long-term availability of proprietary finishes where an exact match might be required.

Notes on the selection of finishes:

- Paints: a matt finish is the most suitable for appearance as gloss finishes accentuate even minor surface imperfections. Spray applied textured and flecked paints have been found to be very satisfactory in use and in appearance.
- Pvc sheet: pvc sheet can be fixed with a variety of adhesives and the joints can be welded making it suitable for use in wet areas. Arrises and internal angles should be radiused to allow for the thickness of the material.
- Plastics finishes: proprietary spray applied jointless finishes are available to provide a hygienic, waterproof, easily cleaned surface suitable for areas where large amounts of water are used for cleaning (eg operating departments).

3.3 Preparation to receive finishes

The partition erector should leave the partition surfaces ready to receive finishes by others:

- Paint: preparation of partitions generally to receive paint should be as recommended in BS 6150: 1982 Code of practice for painting of buildings.
- Wallpaper, paper backed vinyls and pvc sheet: Porous surfaces should be primed to seal the surface.

Preparation of hollow plasterboard partitions to receive finishes.

The erector should prepare the partition surface for painting by applying one or two coats of a dual purpose pigmented primer by brush or roller.

Dual purpose pigmented primers may also act to seal the surface in preparation for sheet and tile finishes.

Large areas of ceramic tiling will require extensive cross bracing within the partition. See the British Ceramic Tile Council's Technical Specification No. 9.

4 Project documentation

4.1 Drawings and schedules

The architectural and engineering design processes should produce finally agreed and fully co-ordinated partition layouts and where appropriate wall elevations presenting the following information:

- partition type and thickness
- ceiling height or full height boarding for hollow plasterboard partitions
- the location and overall sizes of openings for doorsets and internal glazing
- the location and overall sizes of user and environmental engineering terminals and access panels
- the location and sizes of sanitary assemblies, storage units, worktops, signs, cubicle curtain tracks and other partition mounted fixtures
- where relevant the location of studs, including studs at openings, junctions and for reinforcing partition framing to accept fixings
- the identification and location of builder's work in connection with partitions.

Schedules of partition finishes, including site applied finishes, should be prepared as part of the schedules of room finishes.

Hollow plasterboard partitioning is specified in Appendix A which is intended for use as source material for the preparation of project specifications, drawings and schedules of finishes.

The National Building Specification is widely used for health building work and specifiers should refer to Appendix C for a list of sections relevant to partitions.

4.2 Bills of quantities

The measurement of masonry in square metres in accordance with the Standard Method of Measurement (SMM) presents no problems for the quantity surveyor. However, this is not the case with hollow plasterboard partitions as they are of composite construction. If measured in square metres a tenderer would not be able to make an accurate allowance in his prices for head and floor channels, or for the absence of plasterboard above ceiling level in the case of ceiling height boarding.

Consideration should therefore be given to departing from the SMM in this instance and instead measuring hollow plasterboard partitions in linear metres, across openings, fully describing the construction and facing material. If a proprietary version of the partition system detailed in Appendix A has been selected then its name should be stated. Openings should be enumerated stating their size and purpose, including trimming around and extra framing, lintels and timber inserts.

If such a departure from the SMM is made then it should be stated in the bills and the method of measurement adopted described. The SMM authorises this departure and it has been approved in principle by the Standing Joint Committee for the SMM.

Whichever method of measurement is used, the bills should state that the hollow plasterboard partitions are to comply with the specification in Appendix A.

4.3 Methods of procurement

Procurement of both masonry and hollow plasterboard partitions will be by the main contractor within a main contract. Masonry would generally be builders work, and hollow plasterboard partitions generally specialist sub-contractors' work.

Hollow plasterboard partitioning is normally supplied and erected as a proprietary system.

Specifiers should only select a system that complies with the specification in Appendix A and erectors who have been approved by the proprietors of that system.

The method of appointing a specialist hollow plasterboard partition erector will vary according to the form of contract adopted, eg the JCT 80, the IFC 84 etc, and local practice.

Where the design team wishes to exercise some control over the appointment, a list of at least three firms of erectors should be included in the bills and main contractors instructed to obtain competitive tenders from these. The successful erector then becomes a domestic sub-contractor to the main contractor.

Where the design team does not consider it necessary to name firms of erectors, the main contractor should be instructed to obtain tenders from approved firms of his choice.

In preparing the list of tenderers for hollow partitions consideration should be given to the inclusion only of firms who are members of a recognised trade association and who are approved by the proprietors or sponsors of the partition system.

The Dry Lining Association and the National Federation of Plastering Contractors are such bodies.

5 Site practice

5.1 General

This section sets out guide lines for good practice in installing partitions. If any of the items are to be made contractually binding, they should be included in the contract documentation.

5.2 Fixing instructions

Masonry partitions should be constructed in accordance with BS 5628: Part 3 and partitions generally in accordance with BS 5234.

Hollow plasterboard partitions should be erected strictly in accordance with the instructions provided by the proprietor of the system, and the erector should provide the main contractor and site supervisory staff with copies of these instructions.

5.3 Programming

Partitions should not be erected until the building has been weather sealed and appropriate temperature and humidity conditions maintained.

Masonry partitions should be erected directly on the structural base. Floor screeds may then be laid at a later stage in the programme.

Hollow plasterboard partitions are generally erected on floor screeds, or on monolithic finishes in which case all screeds and monolithic finishes in the area should be complete and thoroughly dried out.

Hollow plasterboard partitions may also be erected on screed depth haunchings, timber plates, etc before floor screeds are laid.

Where partitions penetrate the ceiling zone these should be erected, together with any cavity barriers, before the ceiling is installed.

Co-ordination with the installation and testing of services is essential.

Hollow plasterboard partitions which contain services should be erected in two stages:

- erect partition frame and clad one side with boards.
- Install services and fixings.
- after the service installation has been tested and accepted, clad the remaining side of the partition and complete the partition on both sides.

5.4 Storage of materials

Materials should be stored under cover in accordance BS 5234. The time that materials are stored on site should be kept as short as possible to reduce the risk of damage.

5.5 Setting out

The main contractor should provide the partition erector with suitable reference points, which must be maintained throughout the period of the sub-contract. He should also set out lines of partition runs, openings, services, fittings and components. These should be agreed before work is caried out.

5.6 Standards of workmanship

All work should be carried out in accordance with the appropriate British Standard Codes of Practice, ie:
BS 5234: Internal non-load bearing partitioning
BS 5492: Internal plastering
BS 5628: Use of masonry

To provide a reference point for standards of workmanship throughout the project a sample of each type of partition should be erected in a sample room or area and the standard of workmanship approved before the work proceeds.

5.7 Provision of fixings

Consideration should be given to the types and positions of fixings to be used for components which require support from the partition, particularly for components such as sanitary assemblies and demountable and fitted storage where additional strengthening of the partition will be required.

Proprietary fixing devices should be used in accordance with the manufacturers recommendations, using a factor of safety of 2 to 4.

Hollow plasterboard partitions can be designed to accept most loadings met in health buildings (see Appendix A). Tests carried out have shewn that the heaviest loadings for cantilevered worktops and storage units in HTM63 can be supported by the use of additional 50mm wide softwood studs, extending from floor to structural soffit. The cantilever brackets or corbel carcases should be screwed to studs with 3 x 75mm x no12 gauge wood screws. Alternatively 38mm wide studs screwed to metal studs are suitable. Both plasterboard skims should be screwed to wood studs.

Aerated autoclaved concrete block partitions require individual large fixings rather than several close together, penetrating at least 70mm into blockwork.

Medicine cupboards should be fixed as described in HTM62 and 63 and comply with BS2881.

Additional data on fixing is contained in HTM70.

6 Maintenance

6.1 General

A project maintenance manual should be compiled by the architect and handed to the maintenance staff at practical completion of the contract.

The manual should include the following information:

- names of partition system and its proprietor
- partition construction and finish
- sound insulation grade
- fire rating
- special partitions (eg X-ray resistance)
- surface spread of flame class
- recommendations for fixings
- instructions on cleaning and maintenance.

6.2 Repairs

Proprietors of hollow plasterboard partitions systems should provide written instructions on the repair and maintenance of their products for use of maintenance staff.

Repairs to plasterboard

Minor damage: superficial damage, including deep indents provided that the plaster core is intact, should be repaired by lightly rubbing down any roughness or burring of the paper surface with fine sandpaper, then filling the damaged area flush with finishing compound in two applications. The specified surface finish should be used to conceal the repair.

Damaged core, broken edges: remove loose material. Score paper about 15mm away from sound plaster on the edges. Peel paper away and apply a coat of PVA sealer over the exposed surface and cut edge of surrounding paper. Fill the hole with bedding compound and strike off flush. When set, apply finishing compound in two applications. The specified surface finish should be used to conceal the repair.

Major damage: enlarge the hole to a square or regular shape and lightly sandpaper the edges to remove any roughness or burring of the paper surface. Cut a new piece of board 3mm narrower and 100mm longer than the hole. Using bedding compound, or other adhesive, fix the piece of board across the back of the aperture. When the material has set, stick further pieces of plasterboard with bedding compound to finish flush with the partition surface. When these have set, treat joints as previously specified for cut edges.

Alternatively, make a large cut-out from the centre of the nearest stud to the centre of the adjoining stud. Remove the damaged piece of board and cut a new piece to fit the hole. Fit noggings to support the cut edges, then nail or screw further pieces of board to finish flush with the partition surface. Treat joints as previously described for cut edges.

Appendices

A Hollow plasterboard partitioning

This Appendix is intended for use with Appendices B and C as source material for the preparation of specifications, drawings, and schedules of finishes for a project, for the purposes of enquiries leading to the listing of erectors and the preparation of quantities for inclusion in contract documentation. The selection of this material, its content, and form of presentation to meet project requirements are therefore entirely matters to be determined by the specifier. This specification will therefore require editing before issue and amplified with with project drawings.

Index

A1 Description

A2 Specification

A2.1 General
A2.2 Materials
A2.3 Setting out
A2.4 Erection of framing
A2.5 Fixing plasterboard
A2.6 Jointing
A2.7 Cavity barriers
A2.8 Finishing
A2.9 Tolerances on finished partitions

A3 Design details

A3.1 General
Elevations
- full height boarding
- ceiling height boarding

A3.2 100mm Partitions
Sections
- full height boarding
- ceiling height boarding

Section details
- soffit
- boarding horizontal joint
- ceiling junction
- cavity barrier and ceiling junction
- floor
- floor – alternative detail
- floor – alternative detail

Plan details
- straight line joint
- intersection
- right angle junction
- stopped end
- tee junction
- junction to solid wall

Opening details
- head
- jamb
- jamb at tee junction
- jamb at tee junction – alternative

Junction with concrete column

A3.3 200 to 300mm Partitions
Sections
- full height boarding
- ceiling height boarding

Section details
- soffit
- boarding horizontal joint
- ceiling junction
- cavity barrier and ceiling junction
- floor
- floor – alternative detail
- floor – alternative detail

Plan details
- straight line joint
- intersection
- right angle junction
- stopped end
- tee junction
- junction to solid wall

A3.4 Typical fixing details
Heavyweight items
Engineering services
- service pipe or conduit fixed with clip
- service pipe fixed with bracket
- outlet box fixed with battens
- outlet box fixed with pad

Introduction

Hollow plasterboard partitions can be constructed to a wide variety of thicknesses, heights, strengths and with a variety of board thicknesses, stud and channel sizes and gauges.

The specification following describes a "standard" 100 thick partition with 2 x 9.5 plasterboards on either side of 60 studs at 600 centres, which has been successfully used in health buildings for two decades.

BS8212 Code of Practice for Drylining should be followed for recommendations for materials, workmanship and methods of installation.

A1 Description

The hollow plasterboard partition consists of:

- galvanised steel channels secured to floor and structural soffit
- galvanised steel studs at 600mm centres set into channels at head and foot and having knock-outs or cut-outs to accommodate horizontal service runs
- additional studs at junctions, corners and openings
- bracings, noggings and fixings as required
- two layers of 9.5mm plasterboard to each side of the steel framing with boards laid to break joint. The outer layer of boards have taper edges
- stopping, filling, taping and finishing material for joint treatment
- sealer coat(s) over all exposed surfaces
- acoustic quilt as required

The partition is constructed in thicknesses of:

- 100mm
- 200mm to 300mm in 25mm increments.

The 200mm to 300mm thicknesses comprises two independent rows of stud framing braced together.

The partition has plasterboard facings to:

- full height from floor to structural soffit
- ceiling height.

Ceiling height boarding extends from floor to 100mm minimum above the ceiling membrane; the framing continuing unboarded to the structural soffit. Where the unboarded height exceeds 900mm, design advice should be obtained from the partition erector.

A2 Specification

A2.1 General

Test evidence

The erector shall provide written evidence to prove that the partition offered has been successfully tested for strength and stability and complies with the performance requirements set out in Appendix B.

Co-ordination

The erector and main contractor shall co-ordinate the work in accordance with BS5234 and BS8212.

Operatives

The erector shall employ only operatives who have been fully trained in the system.

Control sample

A representative area of partition shall be erected as a control sample and approved before proceeding with the work.

Materials and workmanship

The materials and workmanship shall comply with BS8212 and as follows.

Materials handling and storage

Materials shall be handled and stored on site strictly in accordance with the manufacturers' instructions, BS5234 and BS8212.

A2.2 Materials

Materials shall comply BS8212 and with the following requirements and with the relevant sections of the British Standards quoted:

- gypsum wallboard to BS 1230 Part 1 with exposed surfaces suitable to receive decoration direct; boards to be 1200mm wide.
- framing fabricated from galvanised mild steel sheet to BS 2989, designation Z2 G275 N, steel thickness:
  - 0.55mm for channels and for studs up to 3600mm high
  - 0.70mm for studs from 3600mm to 4200mm high.

  All sections shall be stamped or indelibly marked with the name of the partition system. Studs shall have cut-outs or knock-outs size 38 x 100mm at heights of 300, 900 and 1550mm above floor level
- timber noggings and the like shall be vacuum impregnated softwood with no knots wider than half the width of the section
- screws for fixing plasterboard shall be No 6 gauge, phosphate or zinc plate finished, self drilling and tapping, trumpet head drywall screws with cross heads of the following minimum lengths:
  22mm for base board
  32mm for finishing board
- jointing compounds and tapes to BS 6214
- external angle corner tape shall be 54mm paper tape reinforced with two 12.7mm wide metal strips 1.6mm apart
- dry lining corner bead shall be a metal bead complying with the requirements of BS 6452: Part 1 to reinforce external angles that need a high level of protection
- cavity barrier strip shall be mineral wool material

- acoustic quilt shall be glass fibre or mineral wool mat of not less than 25mm thickness and 11 kg/m^2 density
- the following materials shall comply with the system proprietor's recommendations:
  - dual purpose pigmented primer in one or more coats
  - angle bead (perforated galvanised steel angle strip)
  - acoustic sealant
  - PVA sealer.

No constituent part of the partition shall contain material which by direct contact with the skin or by vapour would be detrimental to the comfort or safety of users or which is known to give off appreciably toxic products during combustion.

No constituent material shall promote or sustain the growth of fungi, micro-organisms or insects, or which gives off dust after the partition is erected and finishes applied.

A2.3 Setting out

The partitions shall be set out accurately to line, level and plumb and shall be within the following permissible deviations:

- partition face offset on plan from agreed line or position measured at floor or ceiling level 3mm
- partition face offset from the vertical measured above or below the agreed setting out position 5mm

A2.4 Erection of framing

Floor and soffit channels and studs at junctions with the structure shall be screwed with No 10 steel round head wood screws at 600mm centres to penetrate at least 38mm into the structure.

Studs shall be positioned at maximum 600mm centres maintaining sequence across openings. Additional full height studs shall be provided at jambs of openings, angles, intersections, stop ends and to support all vertical edges of boards.

Additional horizontal support members shall be fixed to studs at:

- lintels
- cills
- horizontal board joints
- top edge of ceiling height boarding.

Additional bearers, noggings etc, shall be accurately positioned and securely fixed to the framing to support fixtures, fittings and services. Their positions shall be marked on the plasterboard facing for following trades.

Double stud framing shall be cross-braced at 600mm centres with lengths of stud twice rivetted or screwed at each end.

Acoustic sealant shall be applied as a continuous bead to clean, dry, dust free surfaces leaving no gaps at boundaries of the work.

Framing at jambs and heads of openings shall be accurately positioned and fixed to form square plumb openings within permissible deviations of:

- width +10 –0mm
- height +5 –0mm

Openings to receive doorsets, internal glazing, access panels, service terminals and equipment shall be formed around a template to ensure dimensional accuracy. Details of templates shall be obtained from the appropriate manufacturer of the component.

Timber inserts shall be screwed into studs forming jambs and heads of openings.

A2.5 Fixing plasterboard

Boards shall be cut neatly and accurately without damage to the core or tearing of the paper facing. Cut edges shall be kept to a minimum and positioned at internal angles wherever possible. No cut edges shall be left exposed.

Boards shall be securely and firmly fixed. The finished surface shall be flush, smooth, flat and free from bowing and abrupt changes of level. Damaged boards shall not be used.

Boards shall be fixed to each stud and along all edges with drywall screws at:

- not more than 300mm centres
- not less than 10mm from the bound edge of the board
- not less than 13mm from a cut edge
- not more than 60mm or less than 40mm from the corner of any board.

Fixings should avoid points in the metal framing where there is more than one thickness of metal, unless full penetration of all thicknesses is ensured by pilot drilling. Failure so to do will normally result in full penetration of the first layer, partial or nil penetration of second or subsequent layer, forcing the layers apart and causing a bulge in the plasterboard face.

Heads of screws shall not finish proud of the board surface, nor shall they break the paper or the gypsum core.

To ensure that joints are not located on the same stud, boarding shall commence on one side of the framing with a full width board and on the other with a half width board. Joints in the outer layer of board shall be staggered with those of the inner layer.

Continue boarding with full width boards cut out for openings. Cut width boards over openings should not be used.

Where services and support members are to be accommodated within the cavity one side shall be boarded but not jointed. After services have been installed and tested the other side shall be boarded. Both sides shall then be jointed and the partition completed by fixing, jointing and finishing the second layer of plasterboard on both sides.

A2.6 Jointing

Vertical joints within continuous runs of partitioning shall be between tapered edges of boards. Joints between tapered edges of boards shall be lightly butted and a 3mm gap left between cut or unbound edges.

All joints and gaps shall be filled by a four stage process comprising:

- filler
- taping (and applying angle bead)
- filler
- finishing compound

All joints shall be finished to leave a flush, smooth jointless surface.

Two coats of finishing compound shall be applied at external angles.

Horizontal joints below ceiling level are not normally acceptable. Where these are unavoidable there shall be a support behind the joint and the proposed detail shall be approved before proceeding with the work.

A2.7 Cavity barriers

Cavity barriers may be required by the Building Regulations to be provided in hollow plasterboard partitions to limit the risk of the spread of fire.

Cavity barriers formed of 38mm thick timber the full width of the partition cavity shall be provided:

- at intervals along the length of a partition to break the continuity of the cavity
- at edges of openings through the partition.

Cavity barriers may also be provided to sub-divide the ceiling void by extending the plasterboard facings up to the structural soffit.

Cavity barriers formed with metal channels infilled with 50mm thick mineral wool, 25mm plaster or 12.7mm plasterboard shall be provided immediately above suspended ceiling level in fire-resisting partitions with ceiling height boarding, to seal off the partition cavity from the ceiling void.

All cavity barriers shall be closely fitted and fire-stopped to partition members, plasterboard facings, and services passing through.

A2.8 Finishing

The finished partition shall have a continuous smooth surface ready to receive site applied finishes by others.

Cut edges of boards shall be lightly sanded to remove paper burrs. PVA sealer shall be applied to exposed cut edges of boards and any other plaster surfaces to which tape is to be applied.

Screw depressions shall be spotted and minor indents filled to leave a smooth, flush surface.

After joint, angle and spotting treatments have dried, sealer coats shall be applied to give a continuous, consistent texture to the surface of the plasterboard.

A2.9 Tolerances on finished partitions and linings

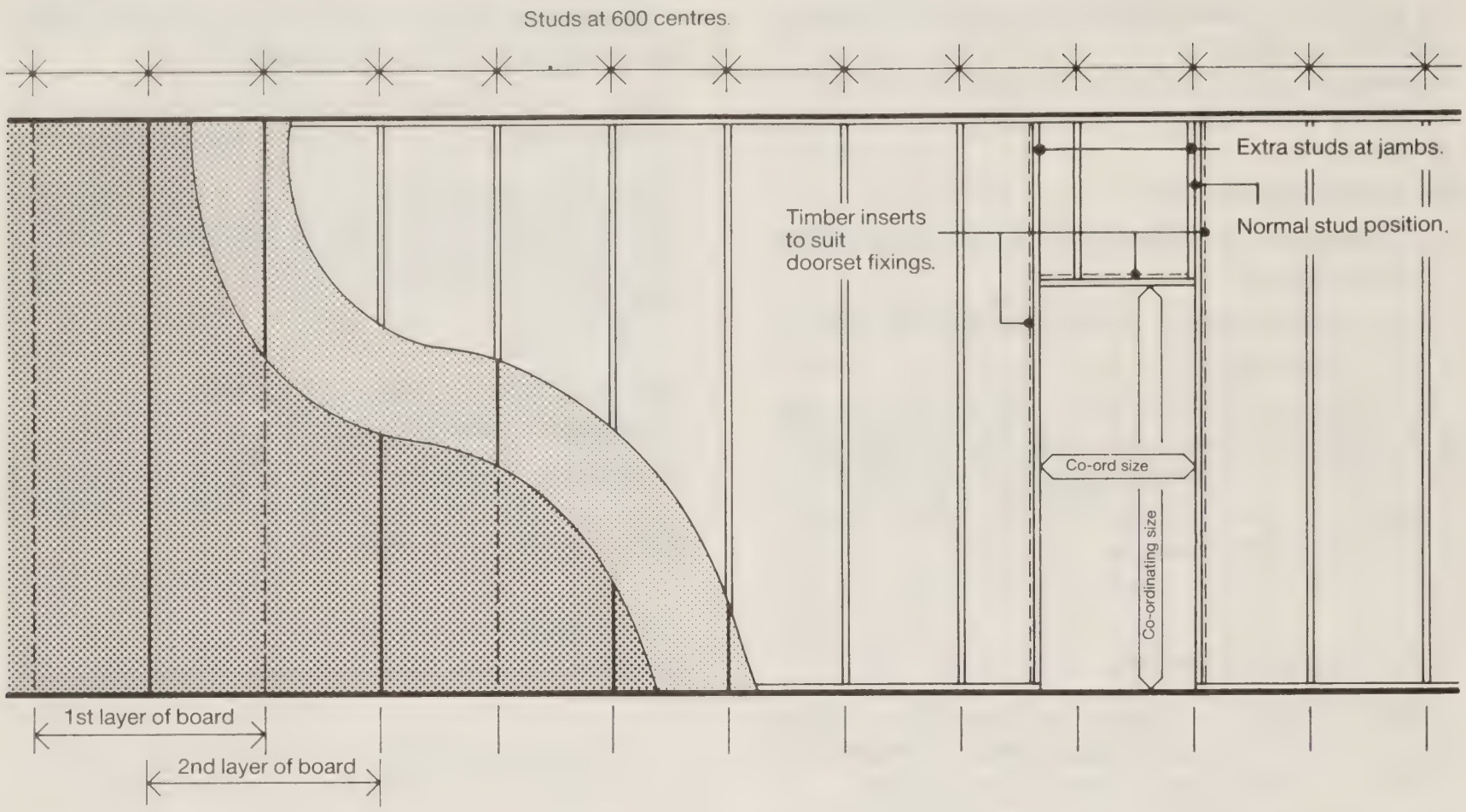
Tolerances on finished partitions and linings shall comply with the recommendations of BS8212 section 3, parts 9 and 10.3.

A3 Design details

A3.1 General

Elevations

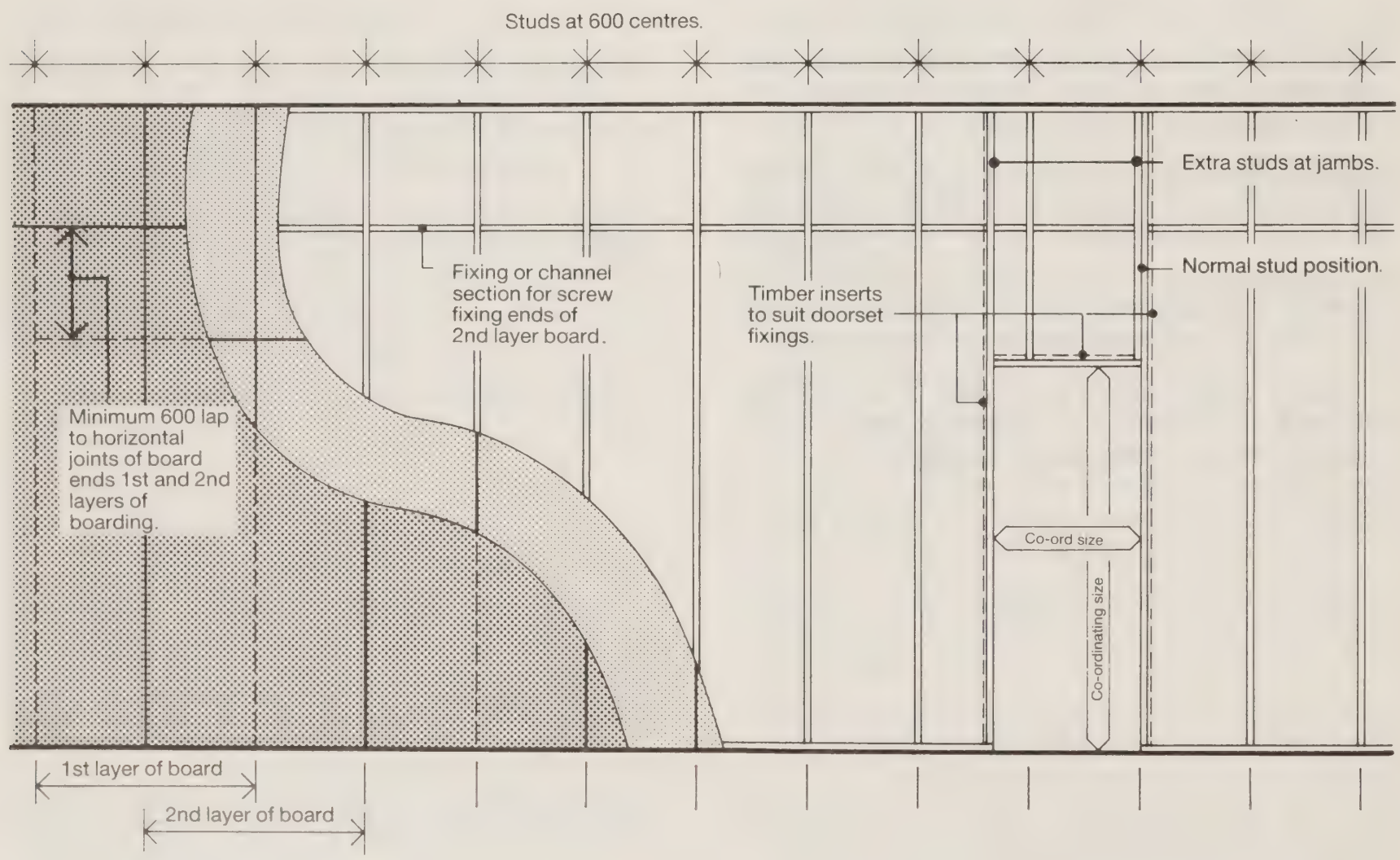
Full height boarding up to maximum board height of 3600



Position of boards reversed on opposite side of partition.

Boards continuous above door openings.

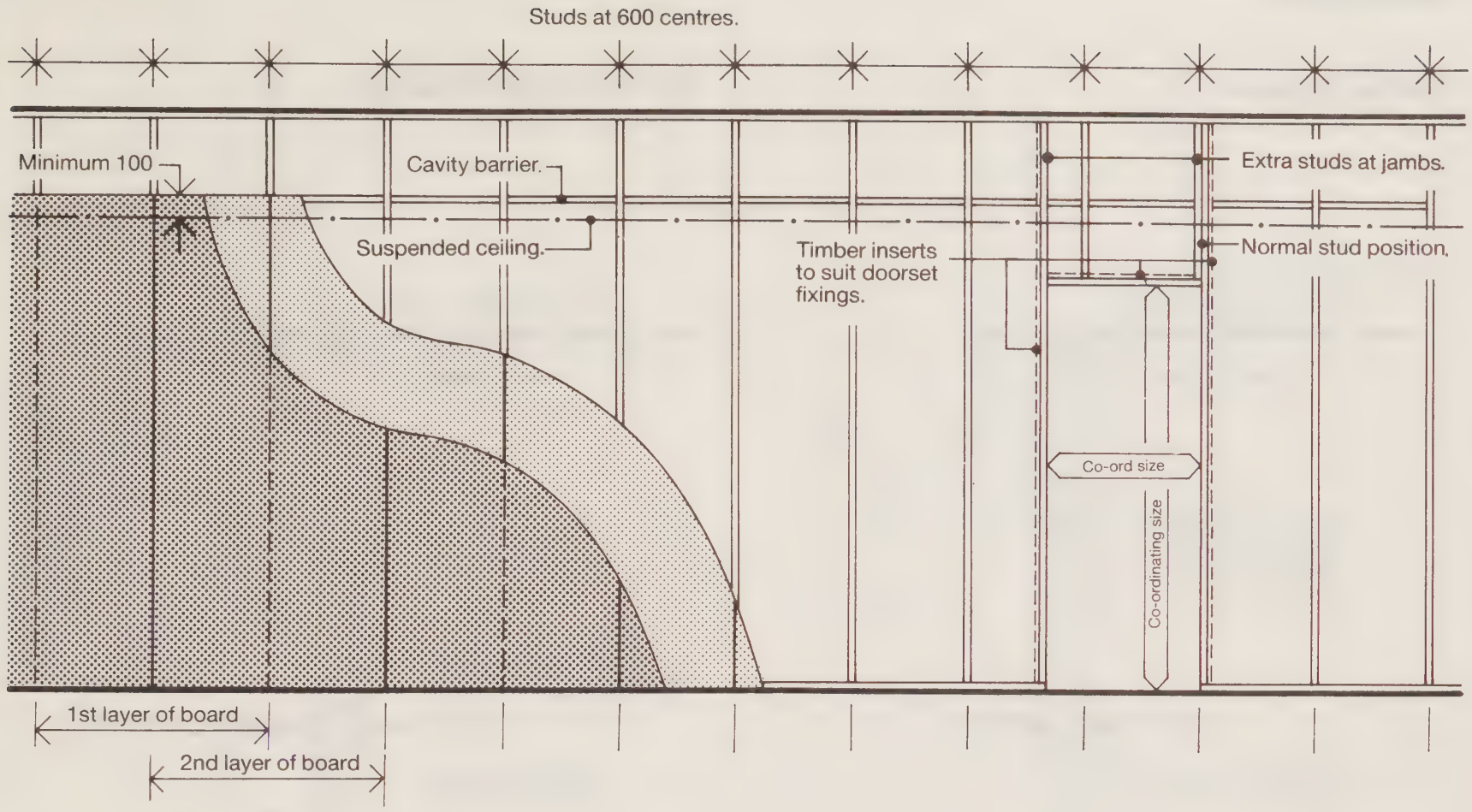
Full height boarding over maximum board height of 3600


Studs at 600 centres.
Extra studs at jambs.
Fixing or channel section for screw fixing ends of 2nd layer board.
Timber inserts to suit doorset fixings.
Normal stud position.
Minimum 600 lap to horizontal joints of board ends 1st and 2nd layers of boarding.
Co-ord size
Co-ordinating size
1st layer of board
2nd layer of board

Position of boards reversed on opposite side of partition.

Boards continuous above door openings.

Ceiling height boarding

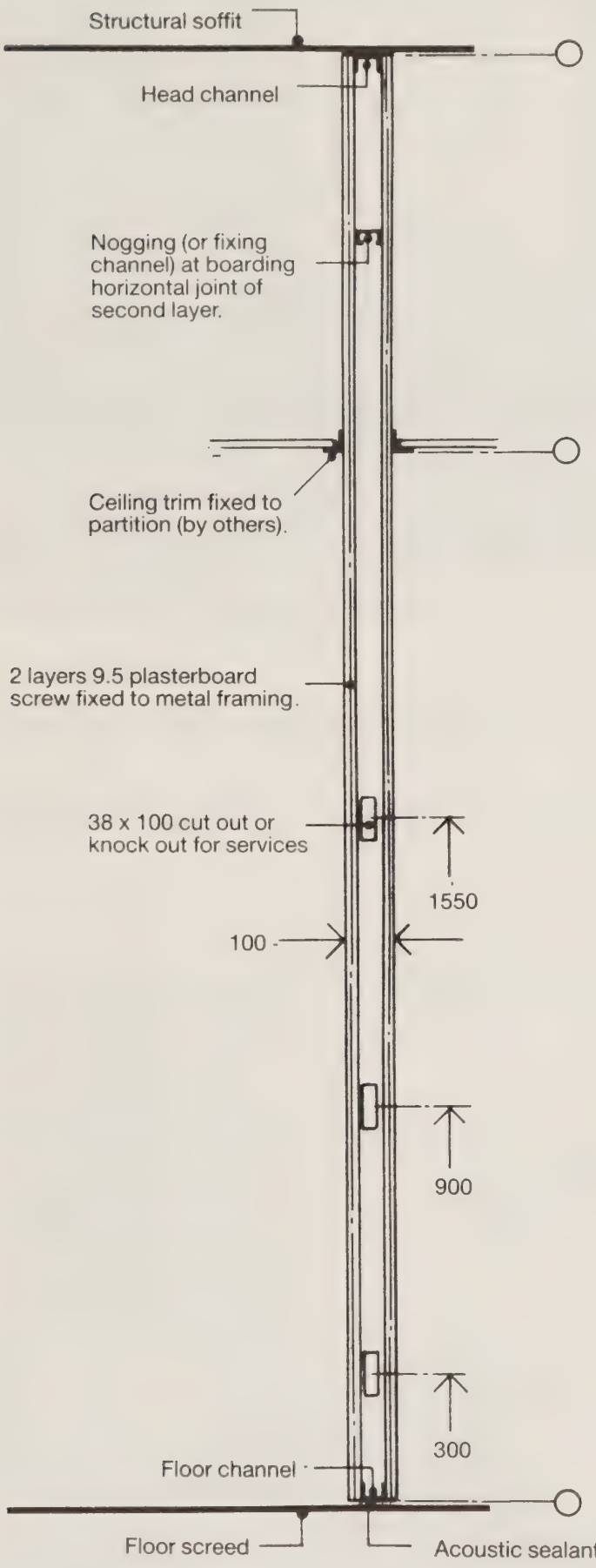


Position of boards reversed on opposite sides of partition.

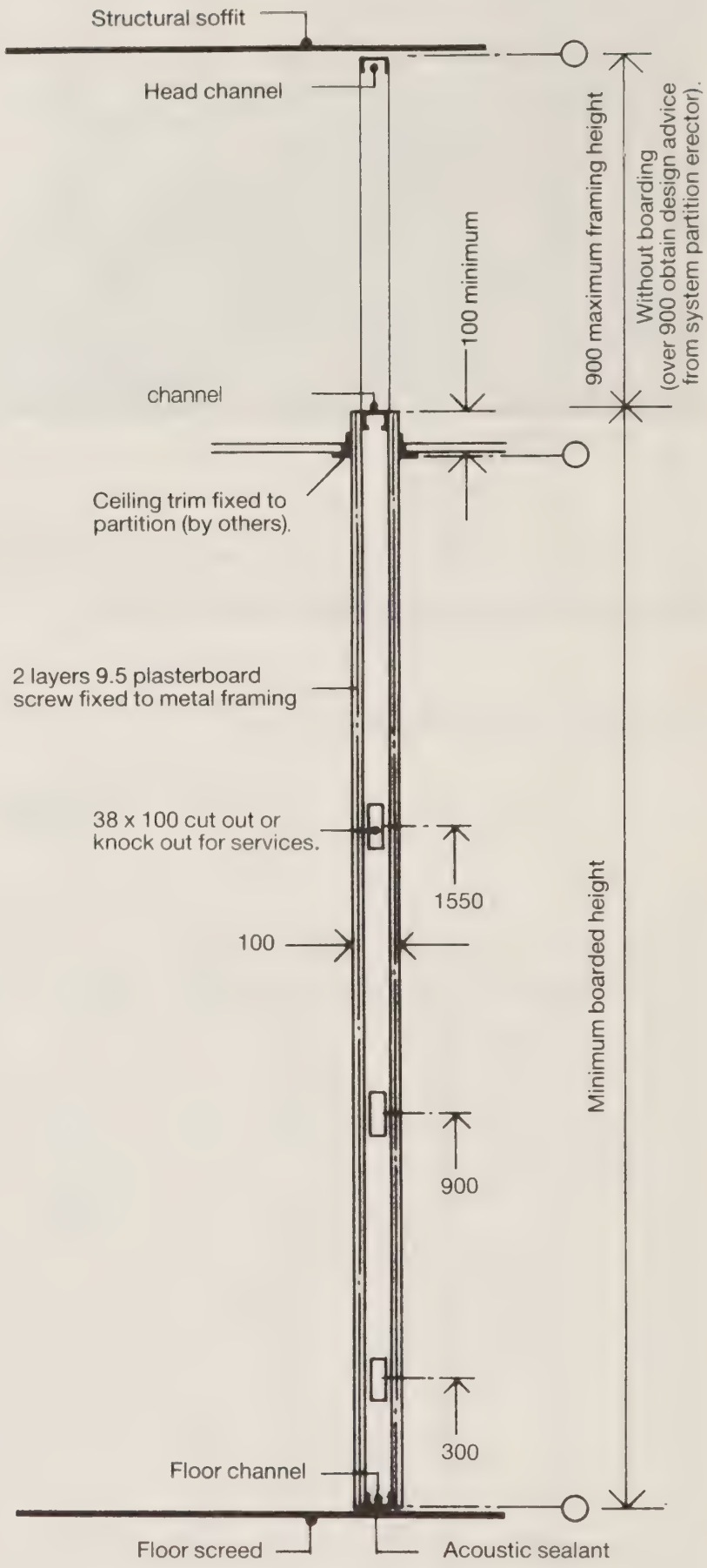
Boards continuous above door openings.

A3.2 100 mm Partitions
Sections

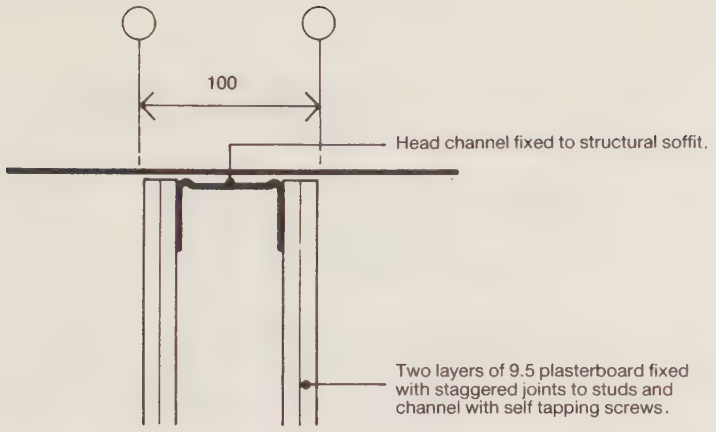
Full height boarding



Ceiling height boarding

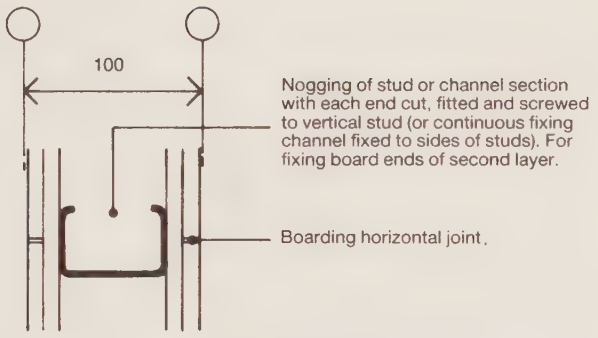


Section details


100
Head channel fixed to structural soffit.
Two layers of 9.5 plasterboard fixed with staggered joints to studs and channel with self tapping screws.

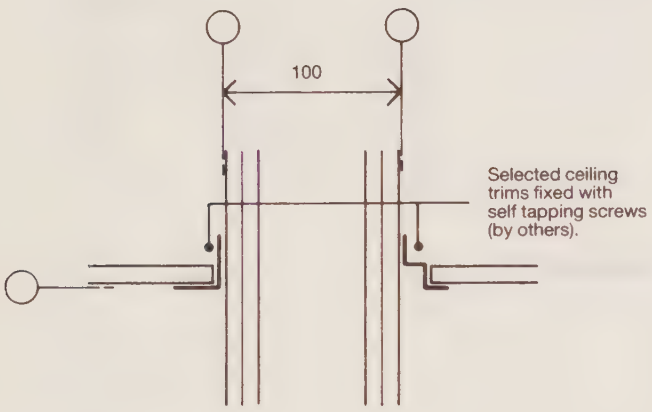
Detail at soffit

(Full height boarding)


100
Nogging of stud or channel section with each end cut, fitted and screwed to vertical stud (or continuous fixing channel fixed to sides of studs). For fixing board ends of second layer.
Boarding horizontal joint.

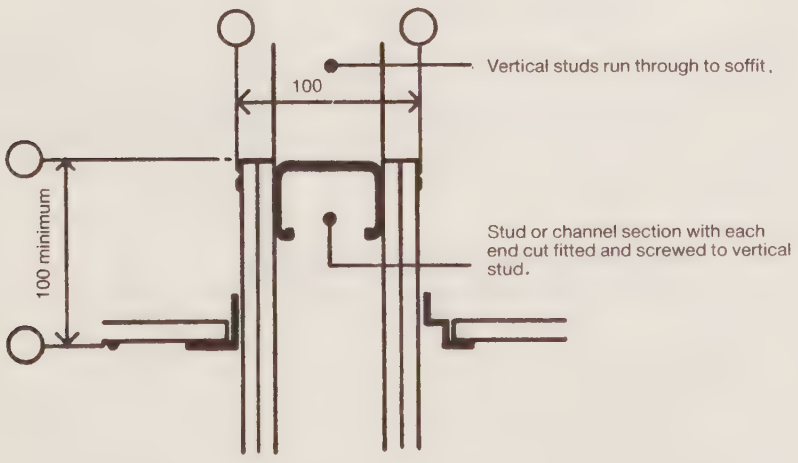
Detail at boarding horizontal joint

(Full height boarding)



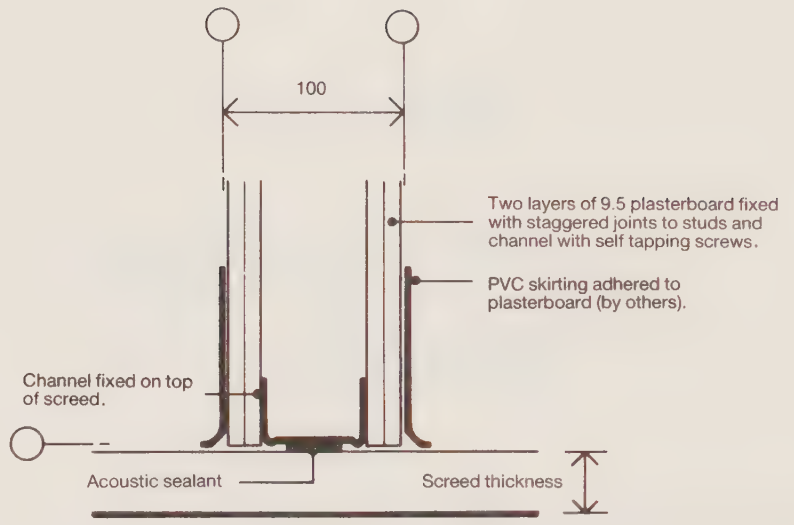
Detail at ceiling junction

(Full height boarding)

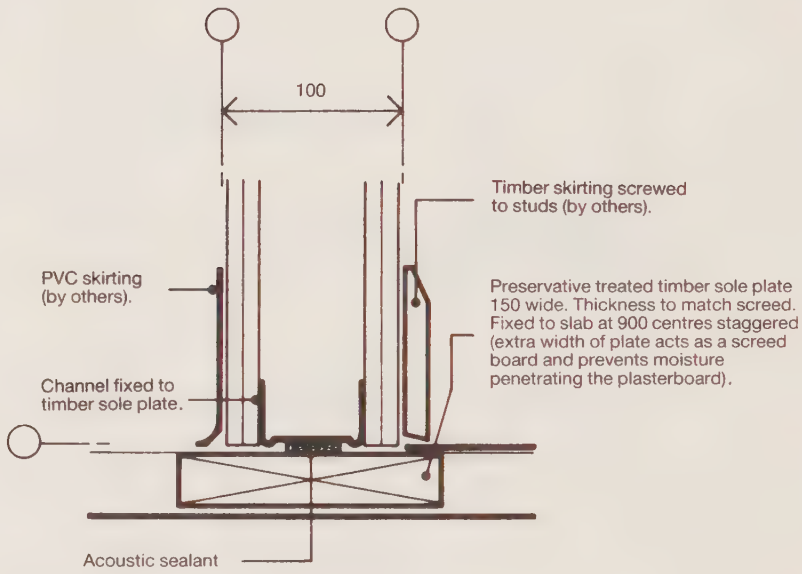

100
Vertical studs run through to soffit.
100 minimum
Stud or channel section with each end cut fitted and screwed to vertical stud.

Detail at cavity closer and of ceiling junction

(Ceiling height boarding)

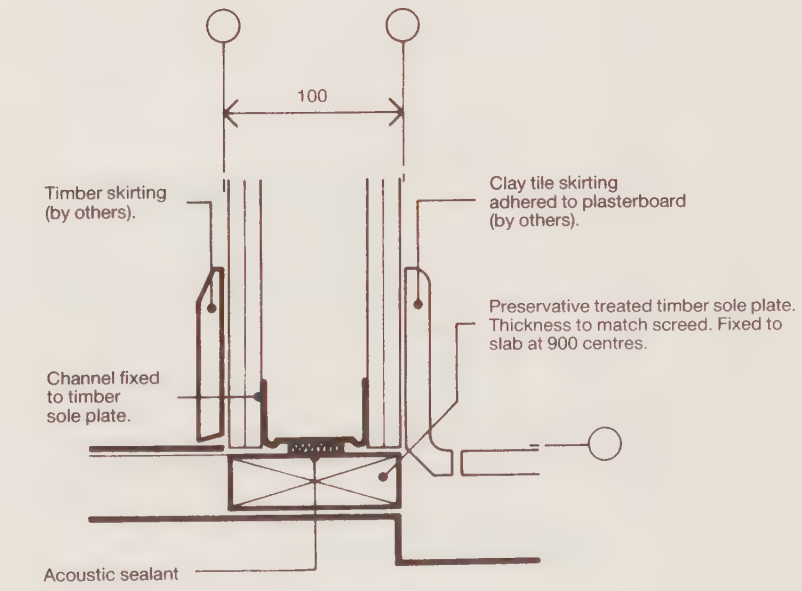

100
Two layers of 9.5 plasterboard fixed with staggered joints to studs and channel with self tapping screws.
PVC skirting adhered to plasterboard (by others).
Channel fixed on top of screed.
Acoustic sealant
Screed thickness

Detail at floor


100
Timber skirting screwed to studs (by others).
PVC skirting (by others).
Preservative treated timber sole plate 150 wide. Thickness to match screed. Fixed to slab at 900 centres staggered (extra width of plate acts as a screed board and prevents moisture penetrating the plasterboard).
Channel fixed to timber sole plate.
Acoustic sealant

Alternative detail at floor

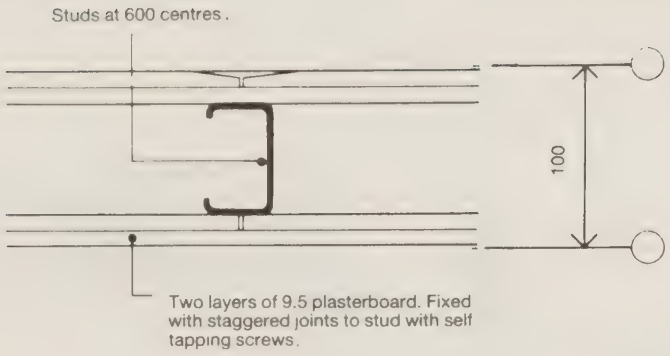
(Screed laid after erection of partition)


100
Timber skirting (by others).
Clay tile skirting adhered to plasterboard (by others).
Preservative treated timber sole plate. Thickness to match screed. Fixed to slab at 900 centres.
Channel fixed to timber sole plate.
Acoustic sealant

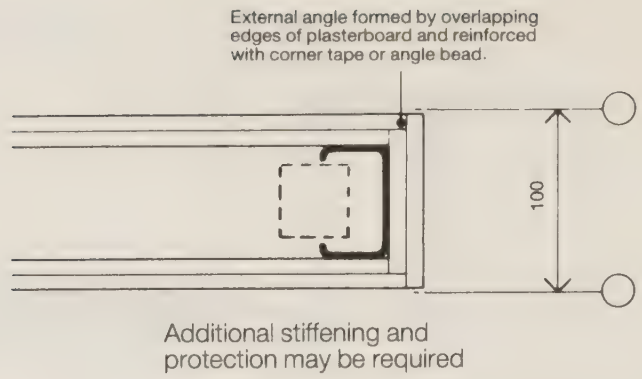
Alternative detail at floor

(Change of slab level)

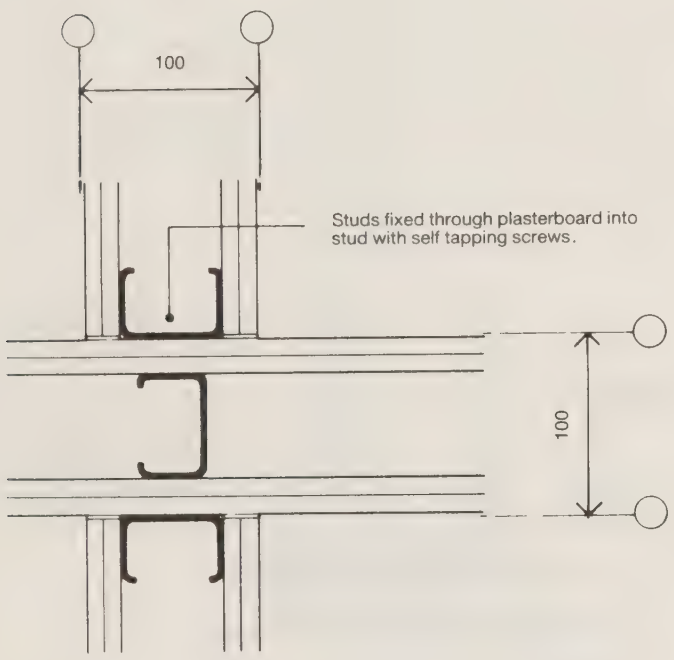
Plan details



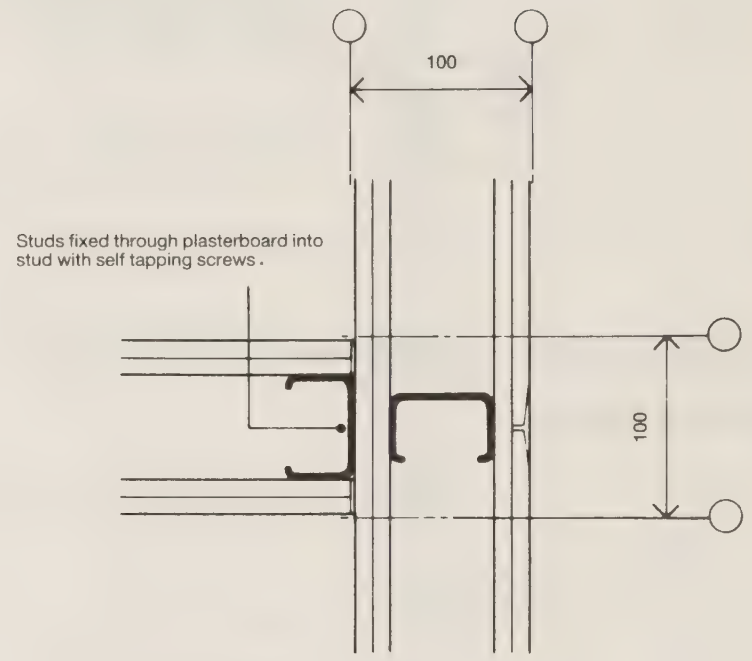
Detail at straight line joint


External angle formed by overlapping edges of plasterboard and reinforced with corner tape or angle bead.
100
Additional stiffening and protection may be required

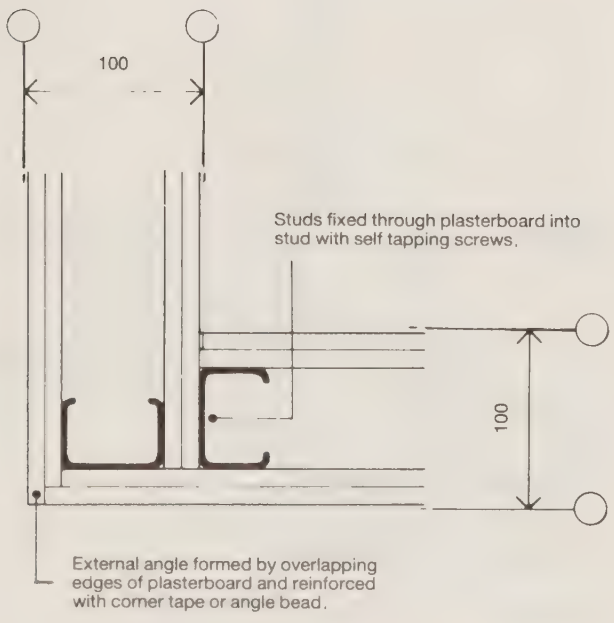
Detail at stopped end



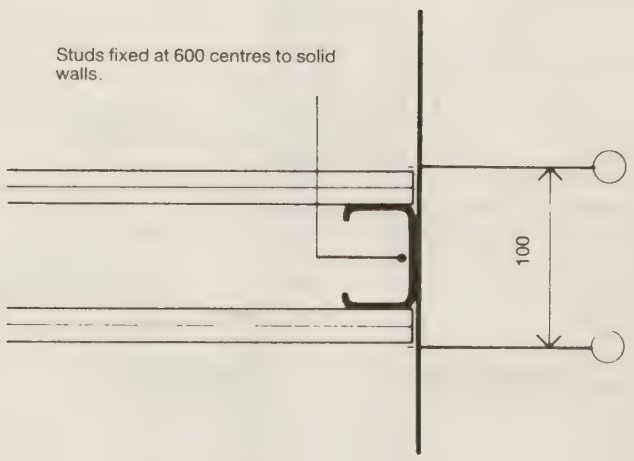
Detail at intersection



Detail at tee junction

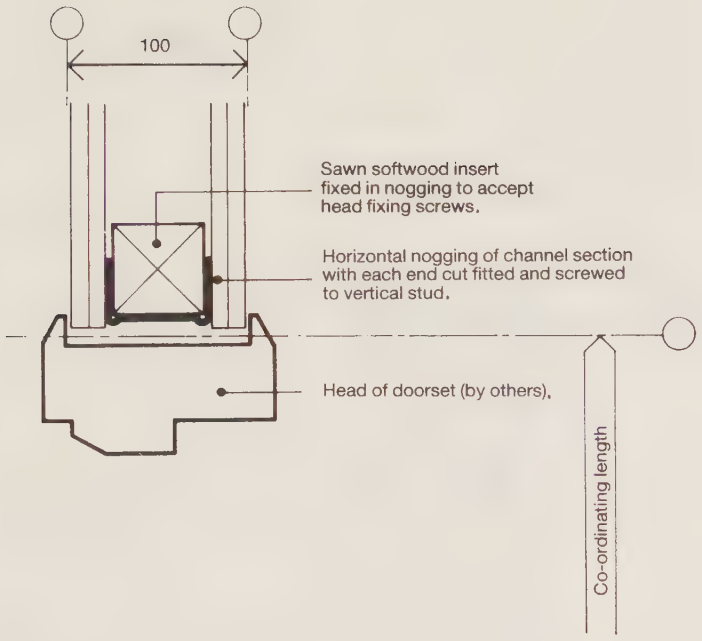

100
Studs fixed through plasterboard into stud with self tapping screws.
100
External angle formed by overlapping edges of plasterboard and reinforced with corner tape or angle bead.

Detail at right angle junction

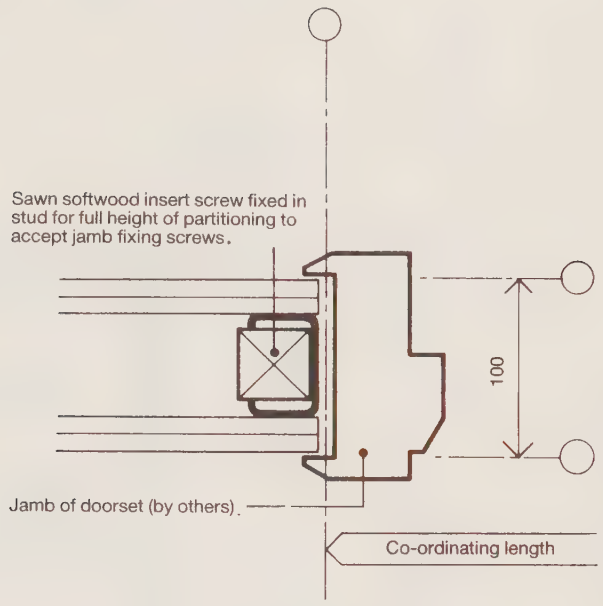


Detail at junction to solid wall

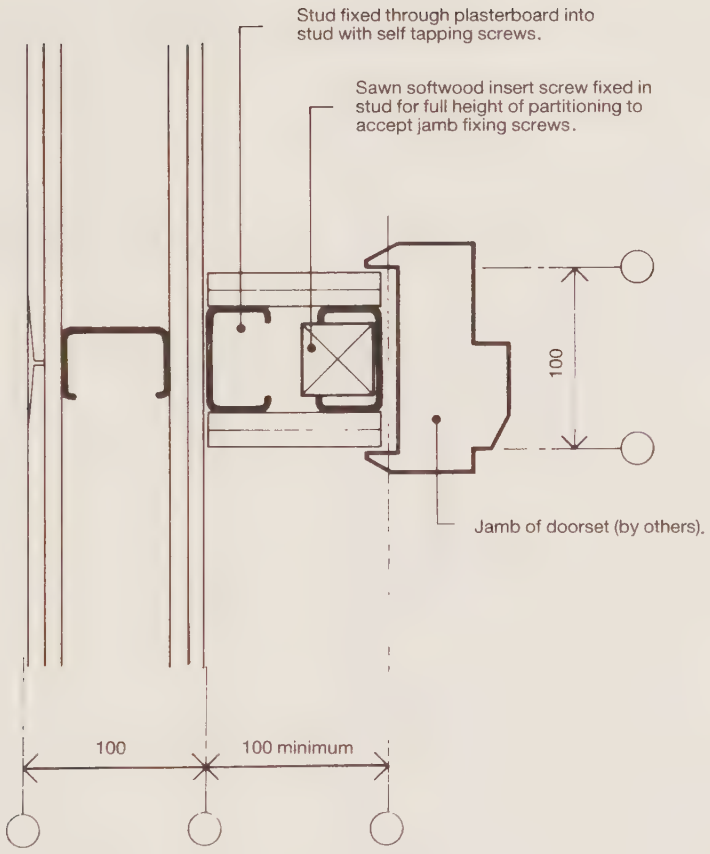
Opening details


100
Sawn softwood insert fixed in nogging to accept head fixing screws.
Horizontal nogging of channel section with each end cut fitted and screwed to vertical stud.
Head of doorset (by others).
Co-ordinating length

Detail at head

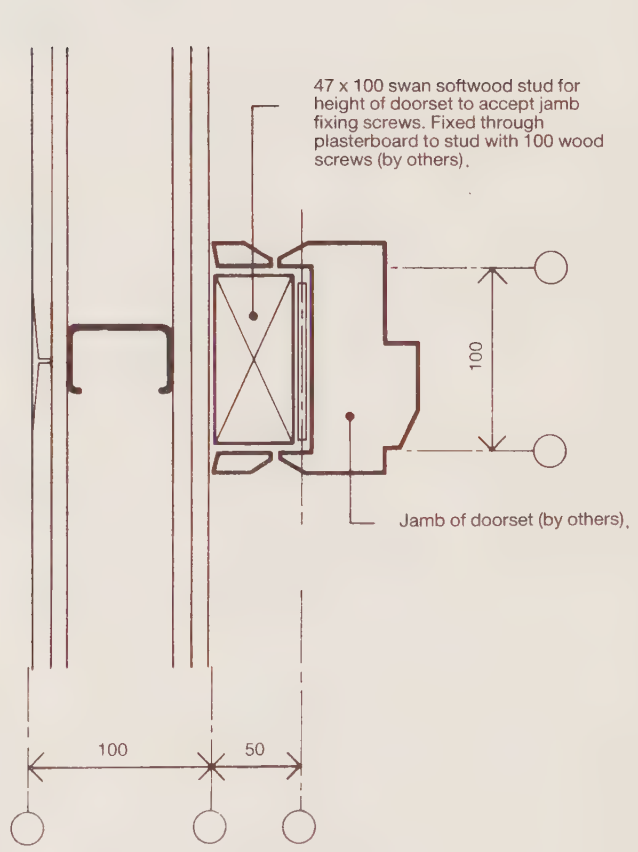

Sawn softwood insert screw fixed in stud for full height of partitioning to accept jamb fixing screws.
100
Jamb of doorset (by others).
Co-ordinating length

Detail at jamb


Stud fixed through plasterboard into stud with self tapping screws.
Sawn softwood insert screw fixed in stud for full height of partitioning to accept jamb fixing screws.
100
Jamb of doorset (by others).
100
100 minimum

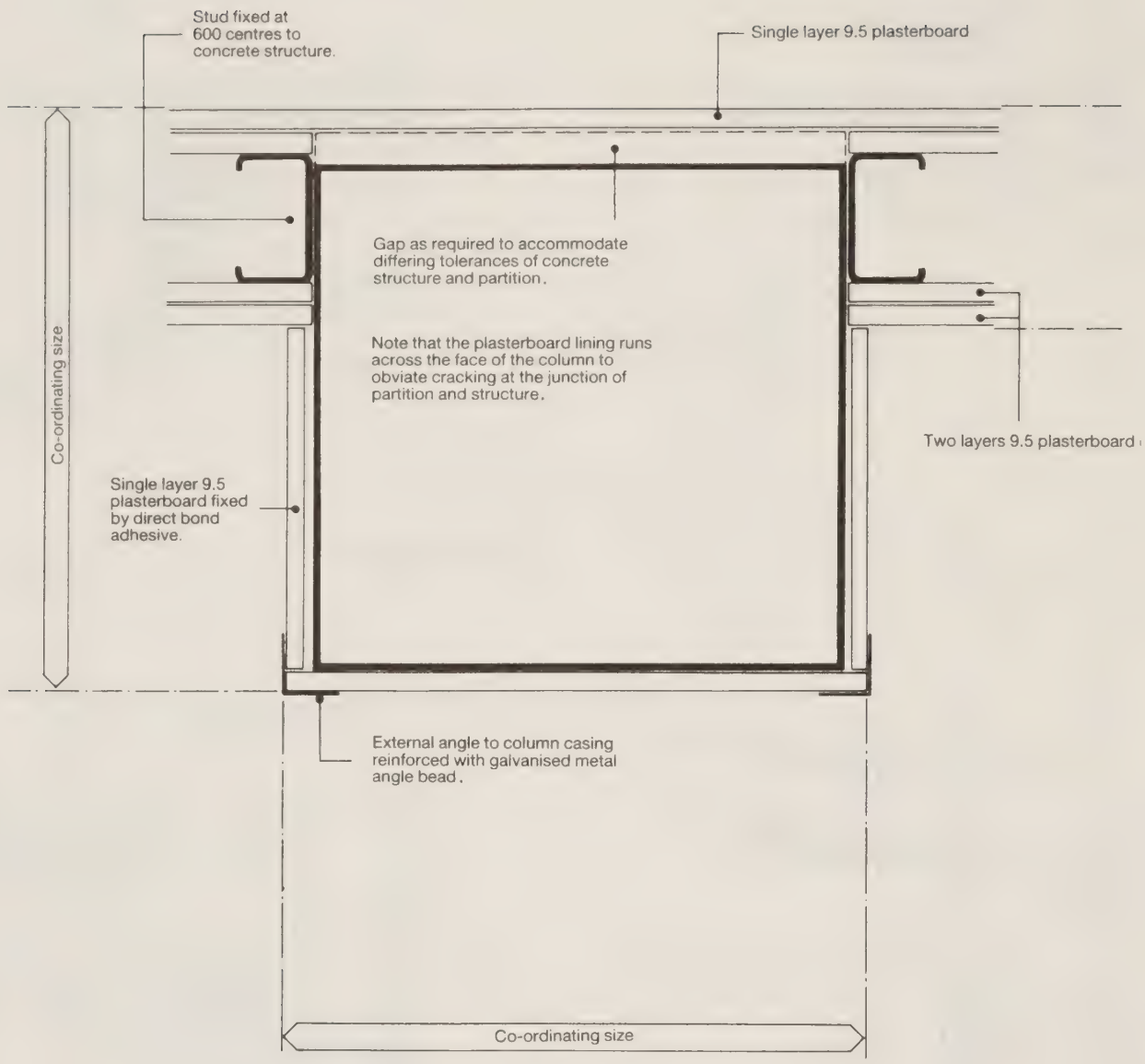
Detail of jamb at tee junction

(Preferred detail)


47 x 100 swan softwood stud for height of doorset to accept jamb fixing screws. Fixed through plasterboard to stud with 100 wood screws (by others).
100
Jamb of doorset (by others).
100
50

Alternative detail of jamb at tee junction

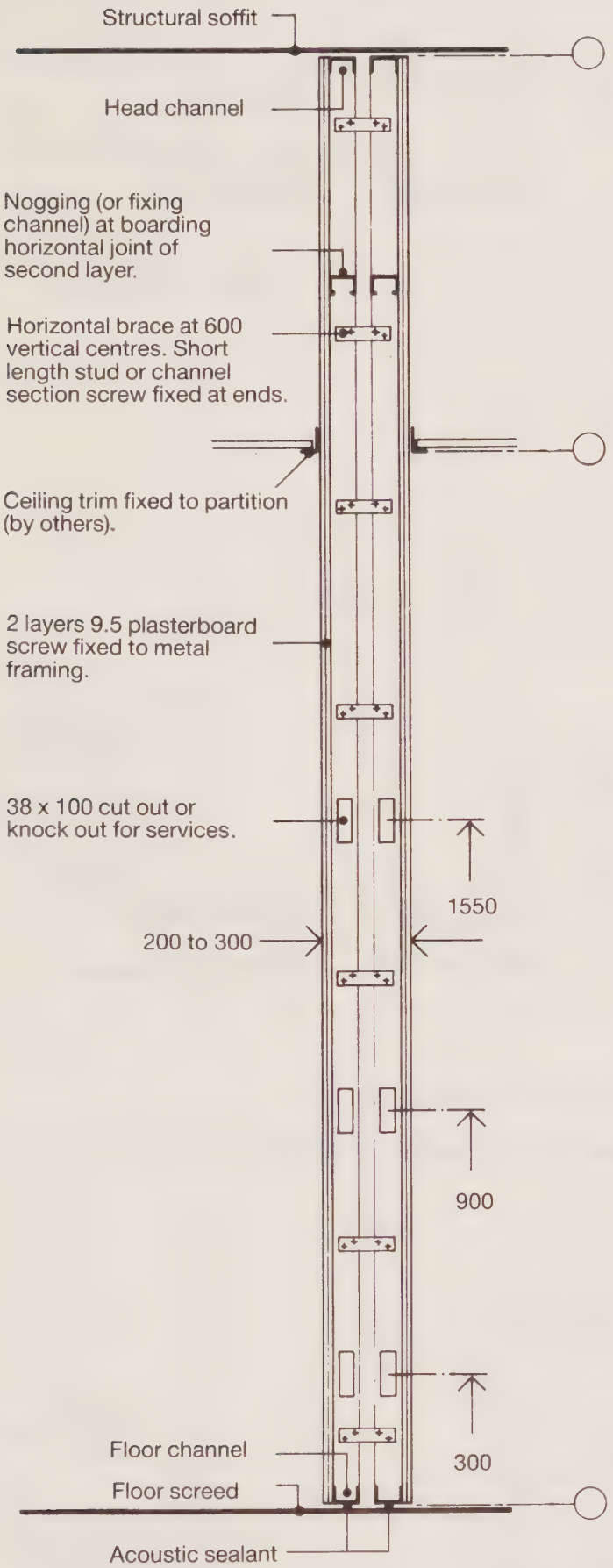
Junction with concrete column


Stud fixed at 600 centres to concrete structure.
Single layer 9.5 plasterboard
Gap as required to accommodate differing tolerances of concrete structure and partition.
Note that the plasterboard lining runs across the face of the column to obviate cracking at the junction of partition and structure.
Co-ordinating size
Two layers 9.5 plasterboard
Single layer 9.5 plasterboard fixed by direct bond adhesive.
External angle to column casing reinforced with galvanised metal angle bead.
Co-ordinating size

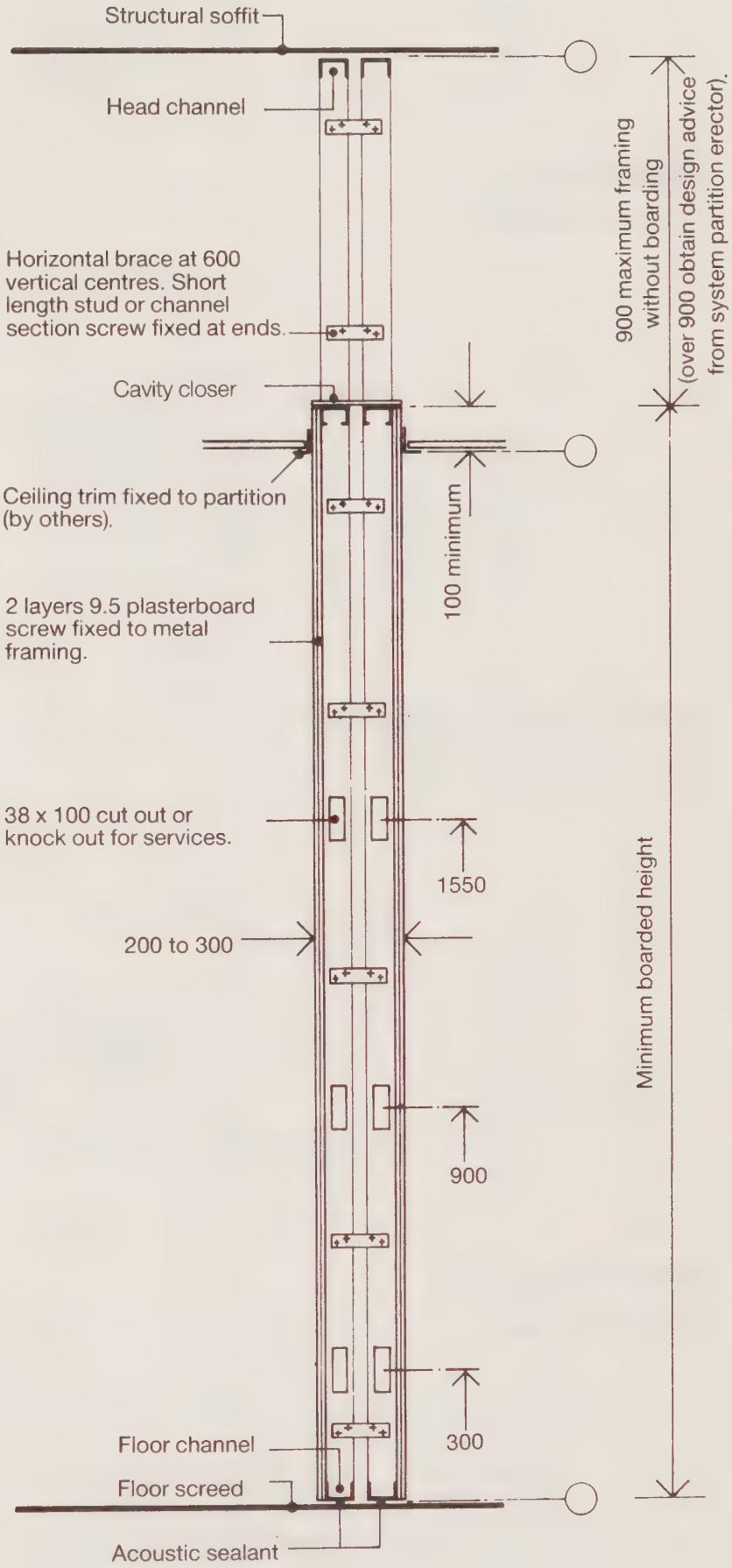
A3.3 200 to 300 mm Partitions

Sections

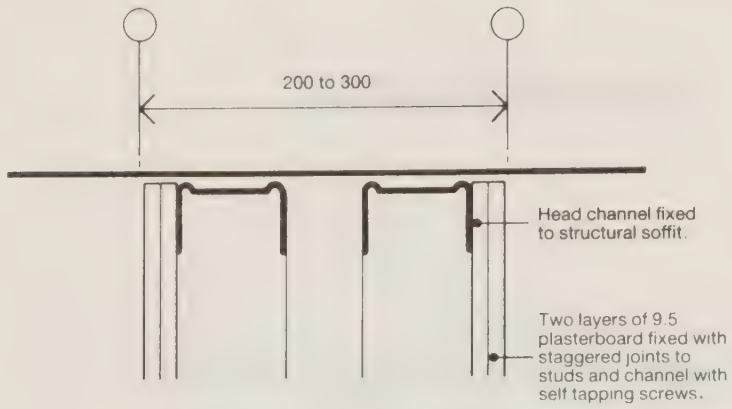
Full height boarding


Structural soffit
Head channel
Nogging (or fixing channel) at boarding horizontal joint of second layer.
Horizontal brace at 600 vertical centres. Short length stud or channel section screw fixed at ends.
Ceiling trim fixed to partition (by others).
2 layers 9.5 plasterboard screw fixed to metal framing.
38 x 100 cut out or knock out for services.
1550
200 to 300
900
300
Floor channel
Floor screed
Acoustic sealant

Ceiling height boarding

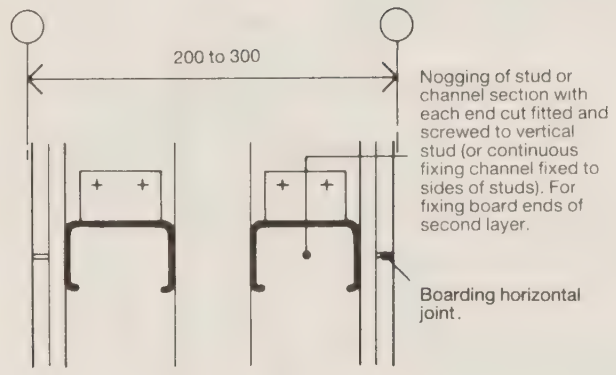

Structural soffit
Head channel
Horizontal brace at 600 vertical centres. Short length stud or channel section screw fixed at ends.
Cavity closer
Ceiling trim fixed to partition (by others).
2 layers 9.5 plasterboard screw fixed to metal framing.
38 x 100 cut out or knock out for services.
100 minimum
900 maximum framing without boarding
(over 900 obtain design advice from system partition erector).
1550
200 to 300
900
300
Minimum boarded height
Floor channel
Floor screed
Acoustic sealant

Section details


200 to 300
Head channel fixed to structural soffit.
Two layers of 9.5 plasterboard fixed with staggered joints to studs and channel with self tapping screws.

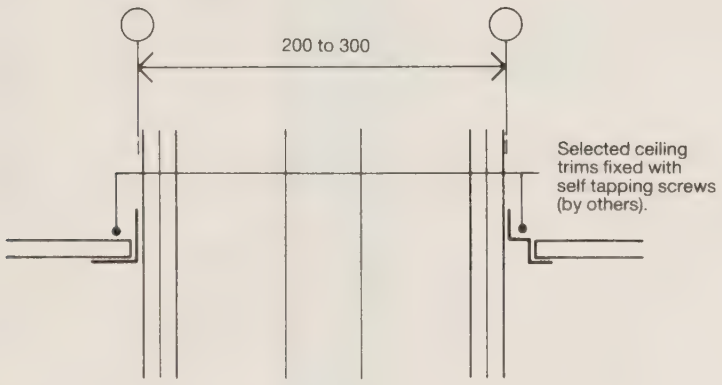
Detail at soffit

(Full height boarding)


200 to 300
Nogging of stud or channel section with each end cut fitted and screwed to vertical stud (or continuous fixing channel fixed to sides of studs). For fixing board ends of second layer.
Boarding horizontal joint.

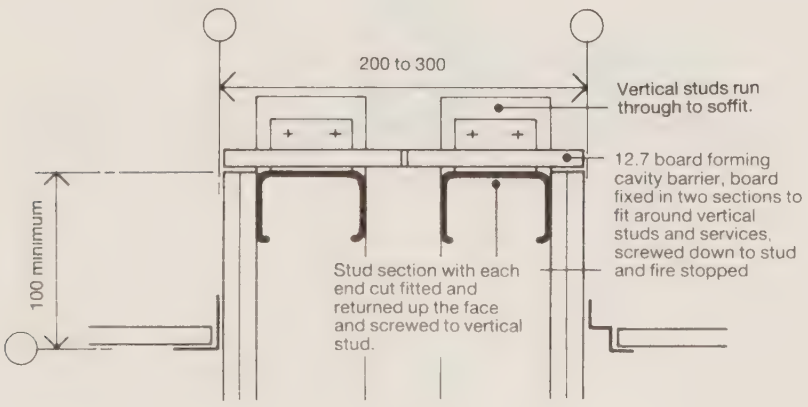
Detail of boarding horizontal joint

(Full height boarding)



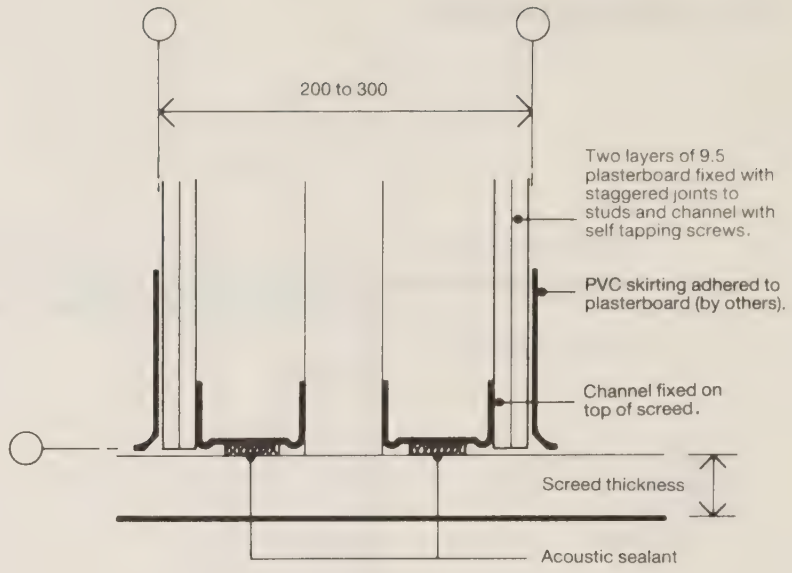
Detail at ceiling junction

(Full height boarding)

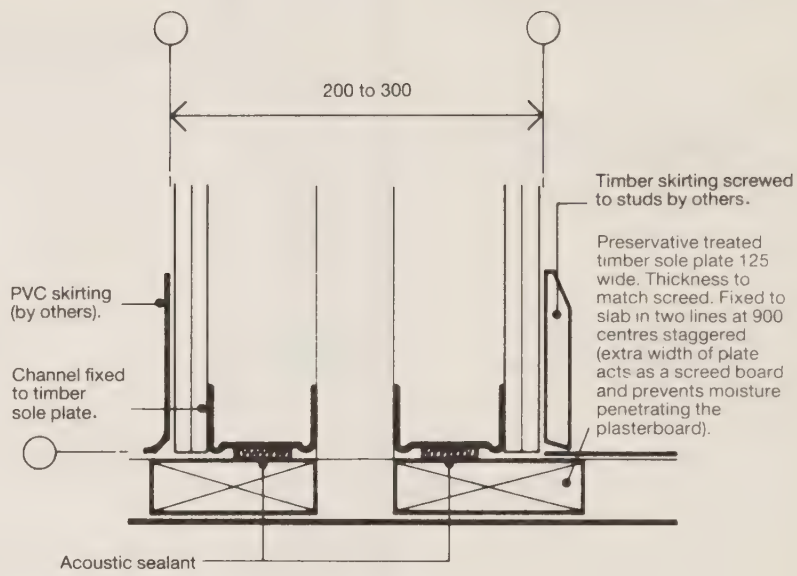

200 to 300
Vertical studs run through to soffit.
12.7 board forming cavity barrier, board fixed in two sections to fit around vertical studs and services, screwed down to stud and fire stopped
100 minimum
Stud section with each end cut fitted and returned up the face and screwed to vertical stud.

Detail at cavity closer and of ceiling junction

(Ceiling height boarding)

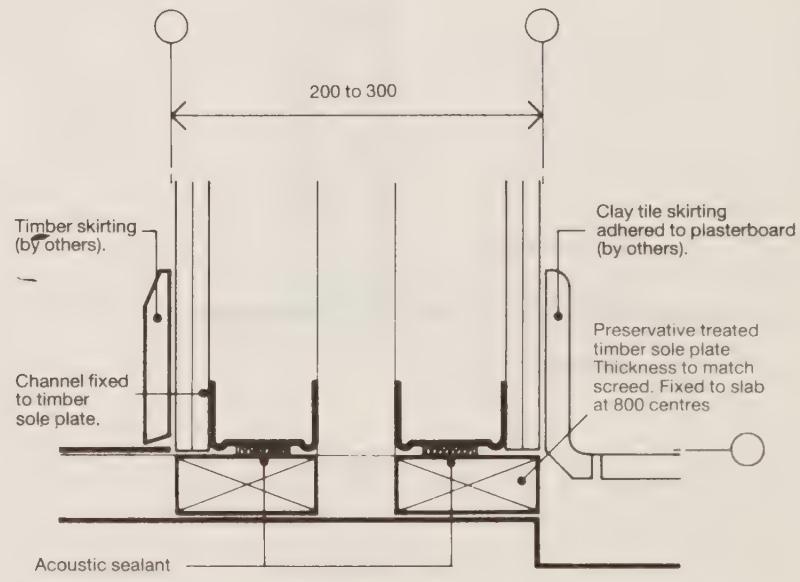

200 to 300
Two layers of 9.5 plasterboard fixed with staggered joints to studs and channel with self tapping screws.
PVC skirting adhered to plasterboard (by others).
Channel fixed on top of screed.
Screed thickness
Acoustic sealant

Detail at floor


200 to 300
Timber skirting screwed to studs by others.
Preservative treated timber sole plate 125 wide. Thickness to match screed. Fixed to slab in two lines at 900 centres staggered (extra width of plate acts as a screed board and prevents moisture penetrating the plasterboard).
PVC skirting (by others).
Channel fixed to timber sole plate.
Acoustic sealant

Alternative detail at floor

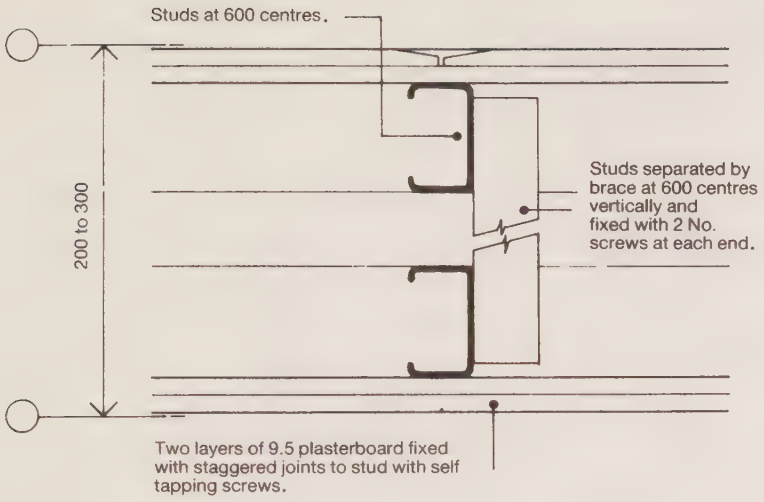
(Screed laid after erection of partition)

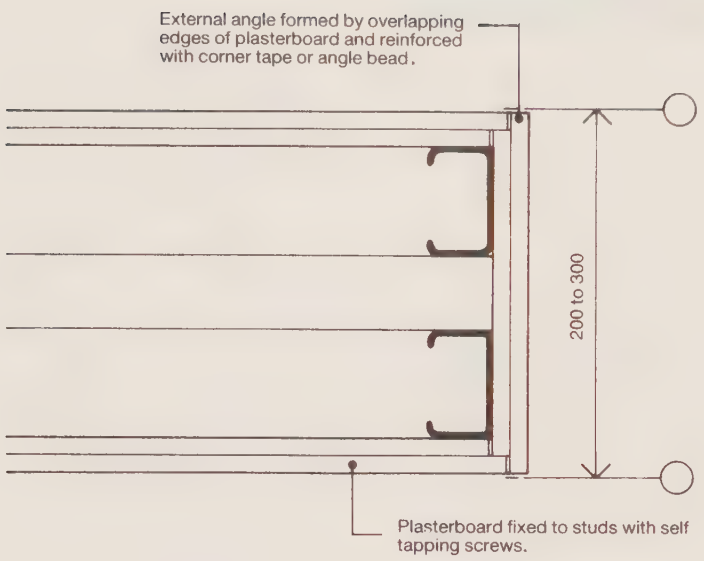

200 to 300
Timber skirting (by others).
Clay tile skirting adhered to plasterboard (by others).
Preservative treated timber sole plate Thickness to match screed. Fixed to slab at 800 centres
Channel fixed to timber sole plate.
Acoustic sealant

Alternative detail at floor

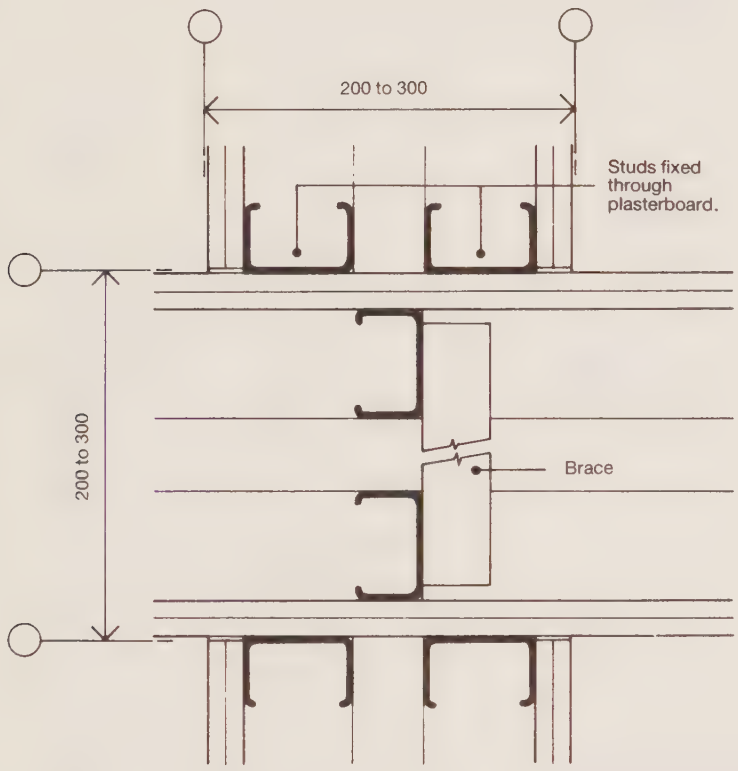
(Change of slab level)

Plan details

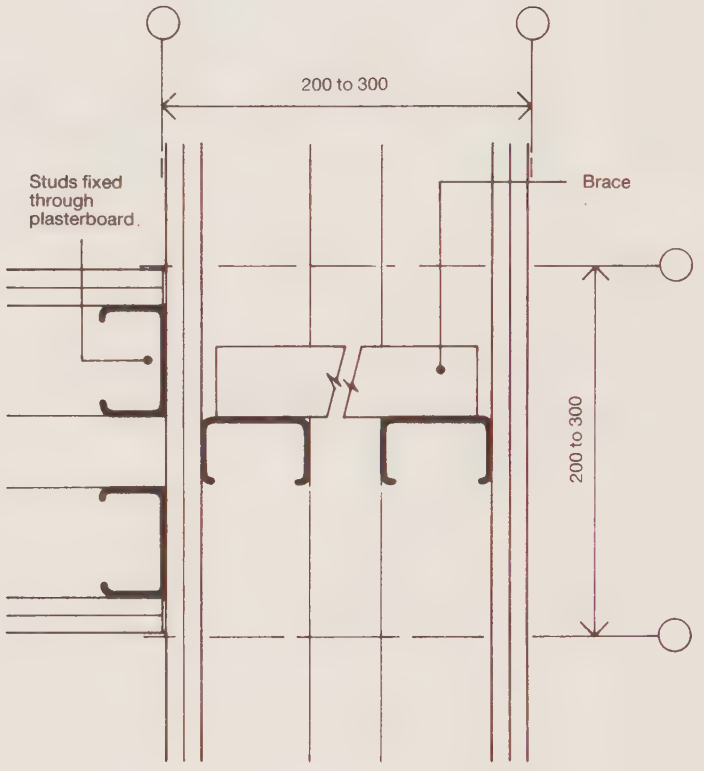

Studs at 600 centres.
Studs separated by brace at 600 centres vertically and fixed with 2 No. screws at each end.
200 to 300
Two layers of 9.5 plasterboard fixed with staggered joints to stud with self tapping screws.


External angle formed by overlapping edges of plasterboard and reinforced with corner tape or angle bead.
200 to 300
Plasterboard fixed to studs with self tapping screws.

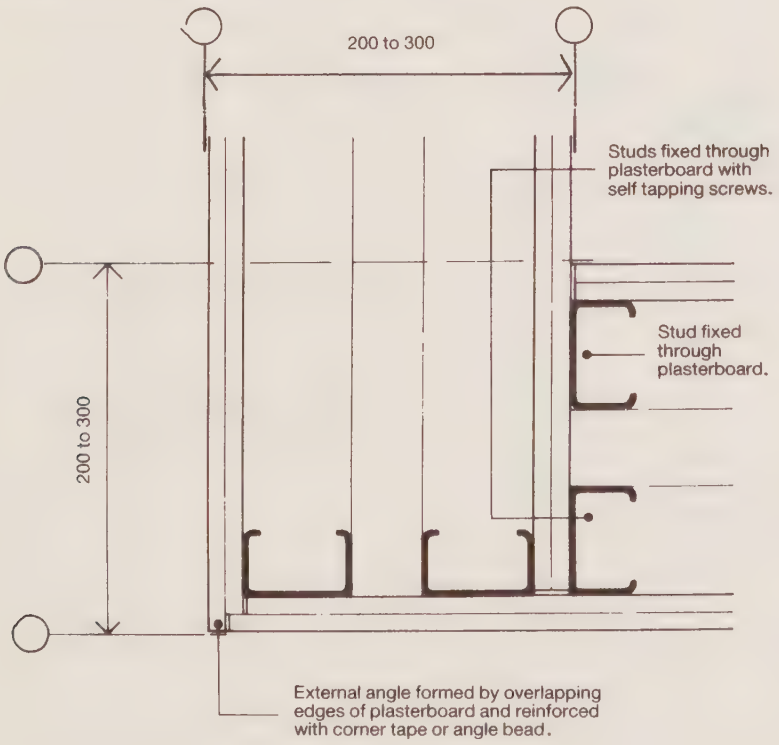
Detail at straight line joint



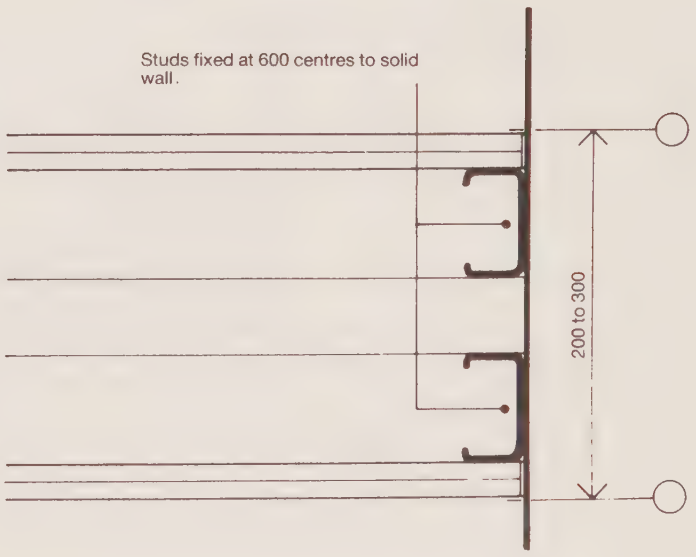
Detail at stopped end



Detail at intersection (typical)


200 to 300
Studs fixed through plasterboard with self tapping screws.
Stud fixed through plasterboard.
200 to 300
External angle formed by overlapping edges of plasterboard and reinforced with corner tape or angle bead.

Detail at tee junction (typical)

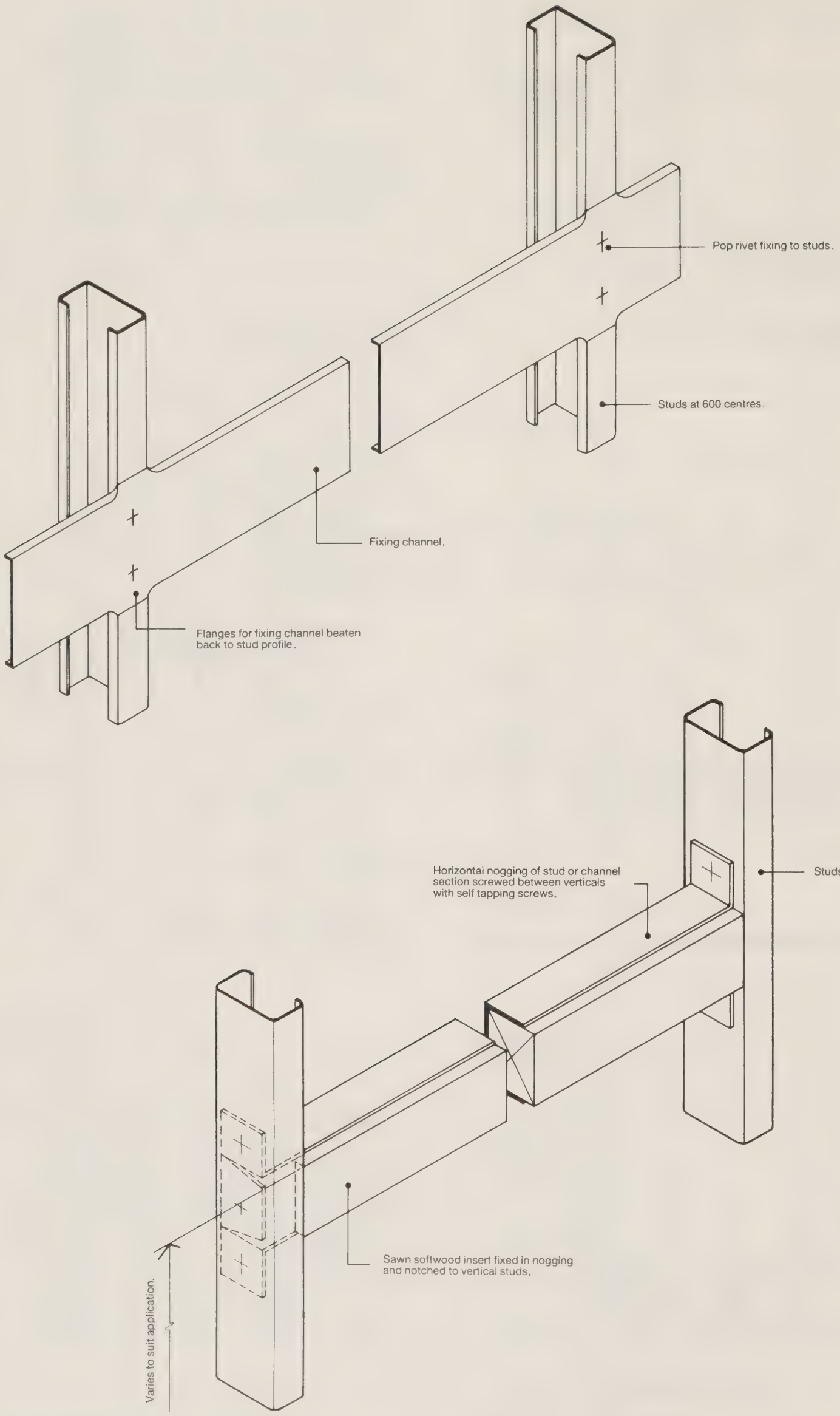


Detail at right angle junction (typical)

Detail at junction to solid wall

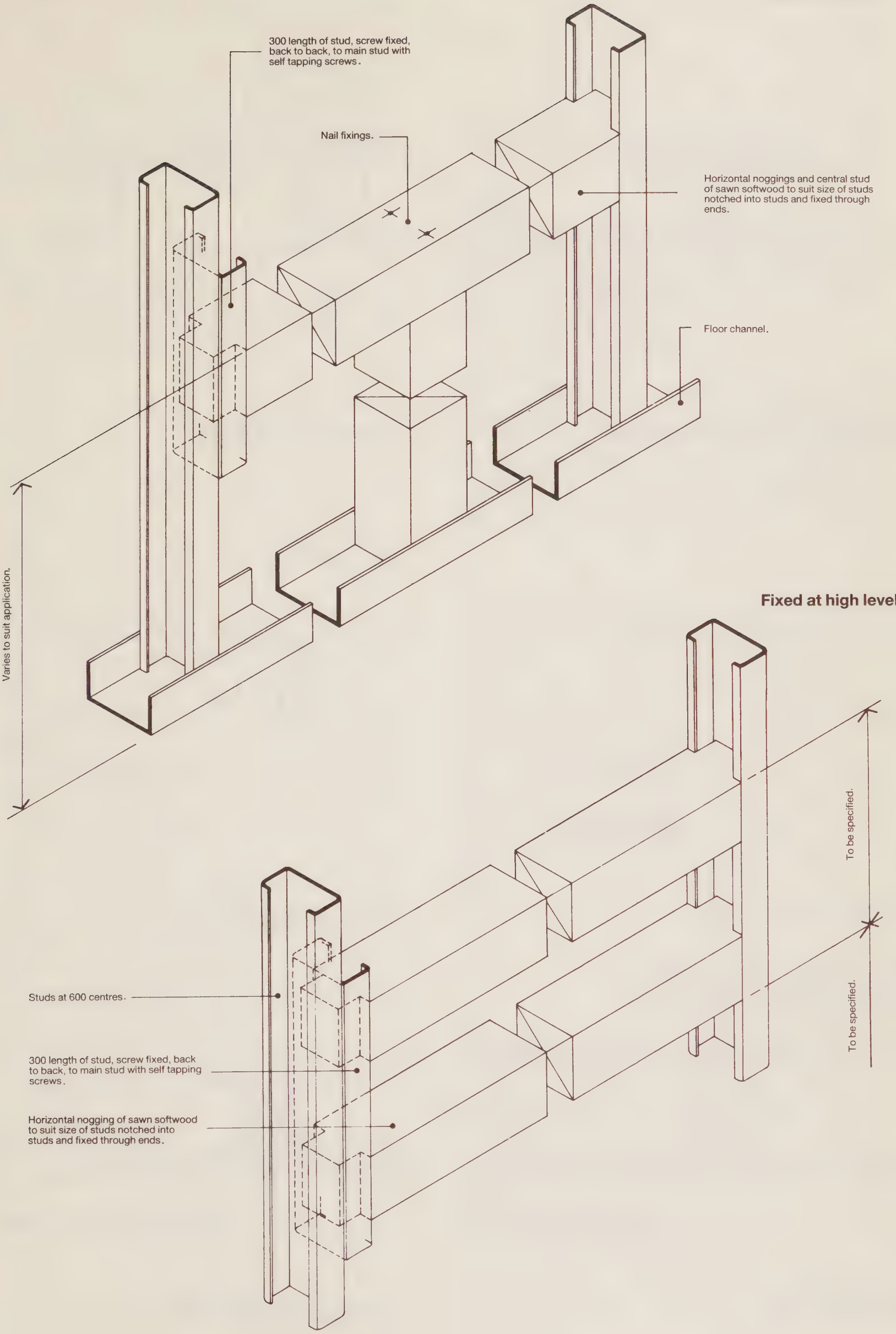
A3.4 Typical fixing details

Heavyweight items


Pop rivet fixing to studs.
Studs at 600 centres.
Fixing channel.
Flanges for fixing channel beaten back to stud profile.
Horizontal nogging of stud or channel section screwed between verticals with self tapping screws.
Studs at 600 centres.
Sawn softwood insert fixed in nogging and notched to vertical studs.
Varies to suit application.

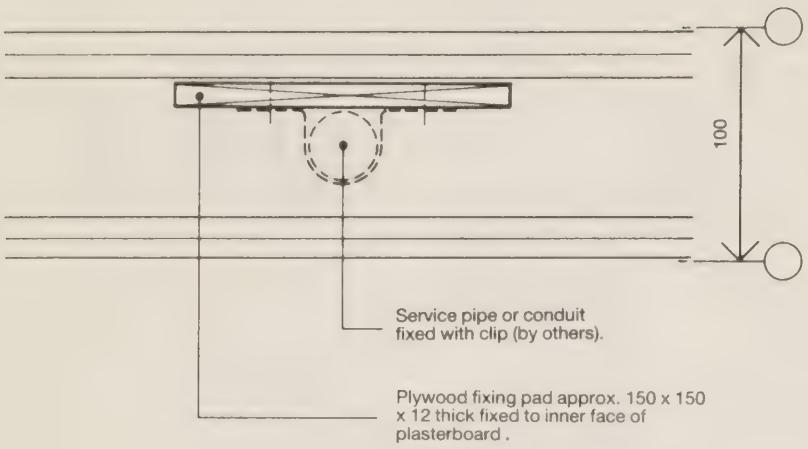
Heavyweight items

Fixed at low level

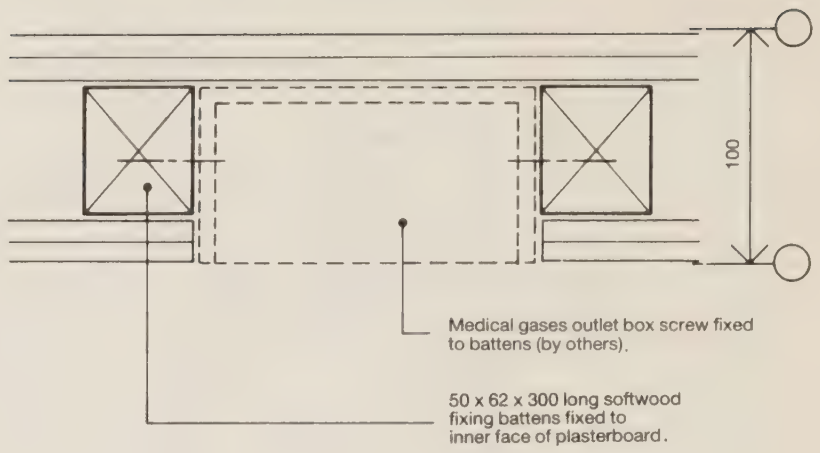

300 length of stud, screw fixed, back to back, to main stud with self tapping screws.
Nail fixings.
Horizontal noggings and central stud of sawn softwood to suit size of studs notched into studs and fixed through ends.
Floor channel.
Varies to suit application.

Fixed at high level

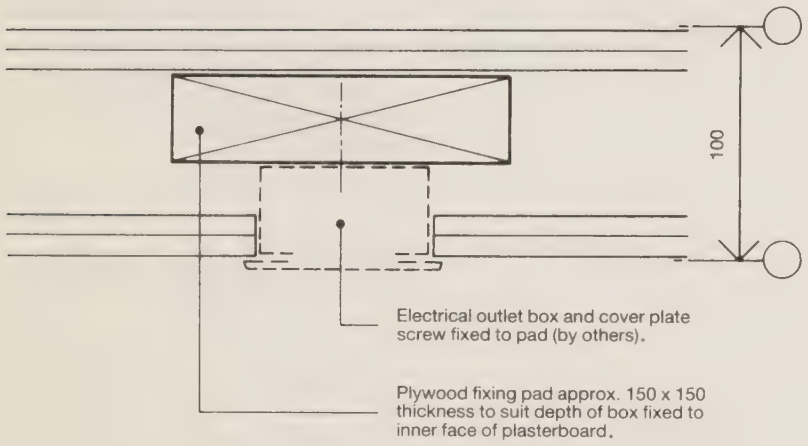
To be specified.
To be specified.
Studs at 600 centres.
300 length of stud, screw fixed, back to back, to main stud with self tapping screws.
Horizontal nogging of sawn softwood to suit size of studs notched into studs and fixed through ends.


100
Service pipe or conduit fixed with clip (by others).
Plywood fixing pad approx. 150 x 150 x 12 thick fixed to inner face of plasterboard.

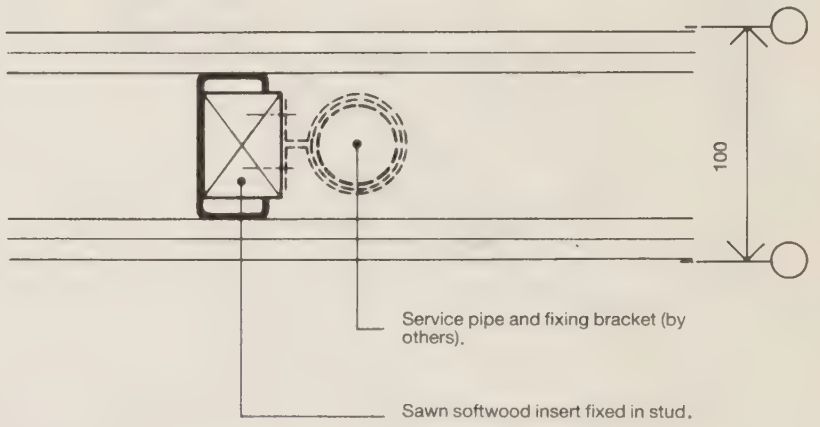
Service pipe or conduit fixed with clip


100
Medical gases outlet box screw fixed to battens (by others).
50 x 62 x 300 long softwood fixing battens fixed to inner face of plasterboard.

Outlet box fixed with battens

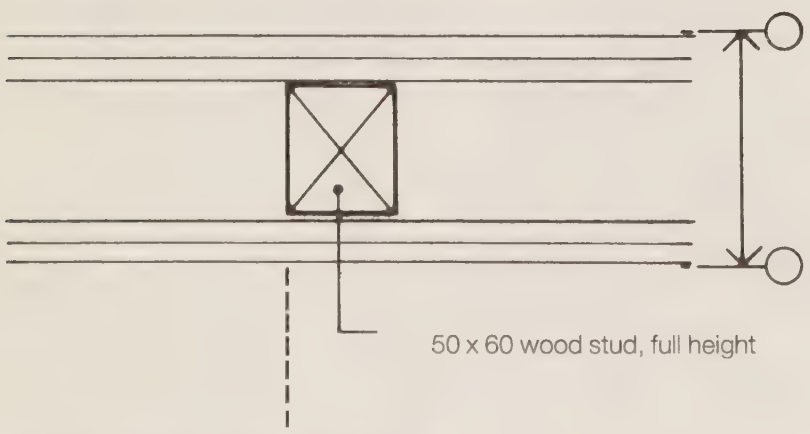

100
Electrical outlet box and cover plate screw fixed to pad (by others).
Plywood fixing pad approx. 150 x 150 thickness to suit depth of box fixed to inner face of plasterboard.

Outlet box fixed with pad

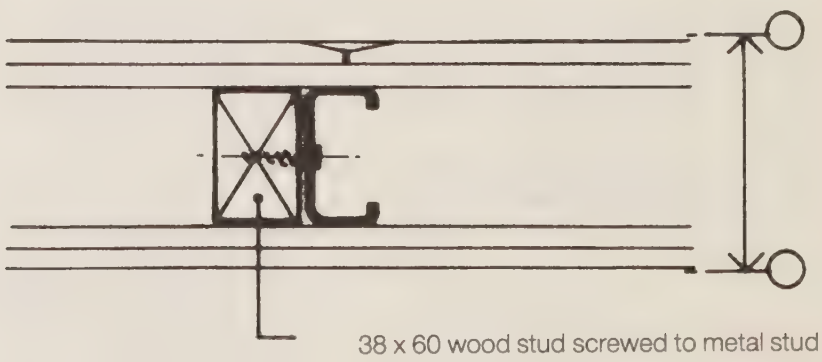


Service pipe fixed with bracket

Supports for storage units to HTM63 or other heavy fittings



Support stud for corbel carcase units or cantilever brackets



Support stud for corbel carcase units or cantilever brackets

B Strength and stability of partitions

This Appendix sets out the performance requirements and methods of test for strength and stability of partitions.

These tests and levels of acceptance are very similar to those for the heavy duty category in the revision of BS5234. Until test results from this B. Standard or a European Standard for partitions is available, test results to CDB Mark 3 or the advance copy of this HTM will be acceptable.

B1 Performance requirements

The partition shall comply with the following performance requirements when tested in accordance with the test methods set out in this Appendix:

- bending:
  elastic deflection not to exceed 14mm,
  residual deflection not to exceed 1mm
- door slamming:
  ten slams: no breakage or damage
- soft body impact:
  elastic deflection not to exceed 28mm,
  residual deflection not to exceed 5mm: no breakage or damage
- hard body impact:
  three impacts of 10 Nm on each side:
  indentation less than 3mm, no penetration, easily repaired
- lightweight fittings:
  100 N pull-out
  250 N pull-down
  no loosening or damage
- heavyweight fittings:
  Full wash basin 500 N:
  deflection not greater than 5mm,
  fixings must hold and not loosen

  person sitting on edge of wash basin 1500 N:
  deflection not greater than 20mm,
  fixings must hold and not loosen

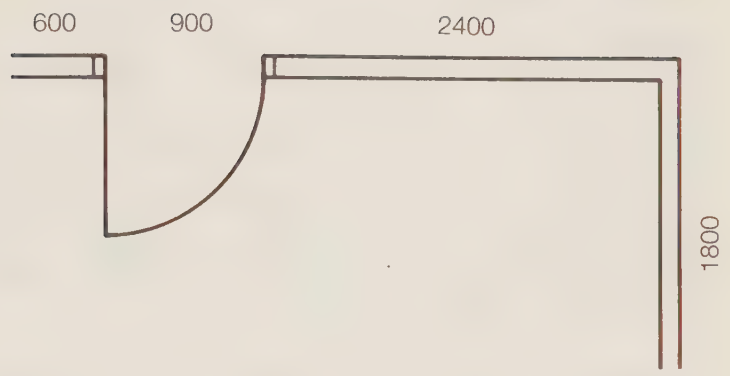
  fully loaded cupboards and shelves 4000 N:
  deflection not greater than 5mm,
  fixings must hold and not loosen.

B2 Methods of test

Test assembly

The test assembly shall be of the required height and to the configuration and plan dimensions shown.

The head and ends shall be firmly restrained.

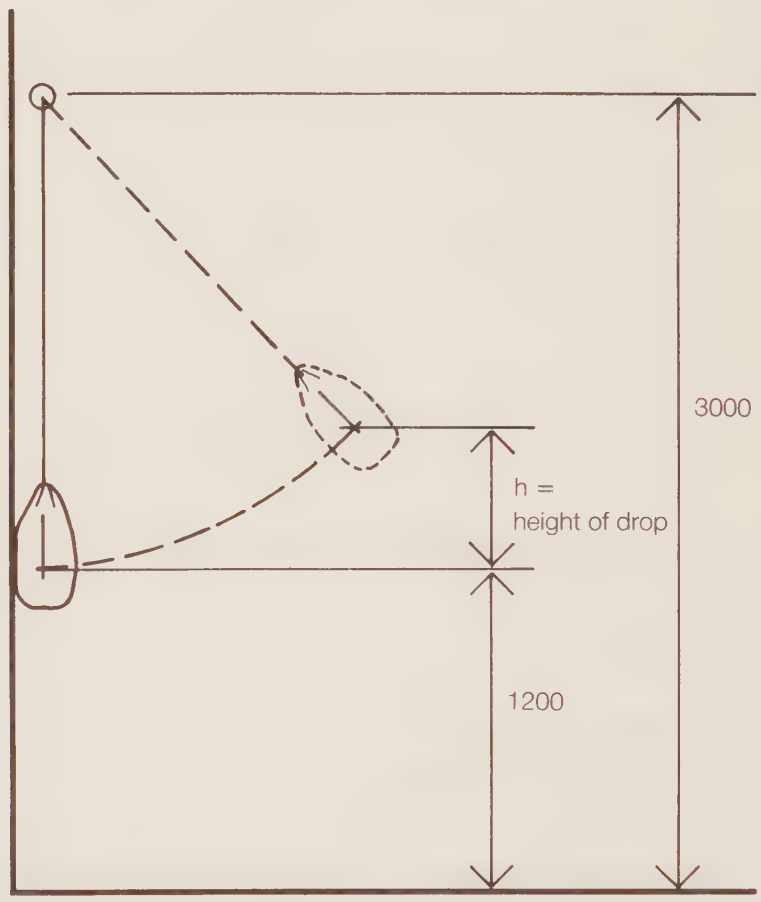


Bending

A static horizontal force of 500 N shall be applied in increments of 100 N through a resilient pad of 150 mm diameter at the point on the panel in the centre of the long side at which maximum deflection occurs.

Soft body impact

Three impacts of 120 Nm shall be applied using a cylindrical cloth bag 250 mm diameter x 600 mm and filled with 30 kg of dry silicious sand. The bag shall be suspended so that when at rest it just touches the face of the partition at a point 1200 mm above floor level. The point of suspension shall be 3000 above floor level.



Determine height of drop (h) by formula:

$$h = \frac{TF}{9.8 \times W}$$

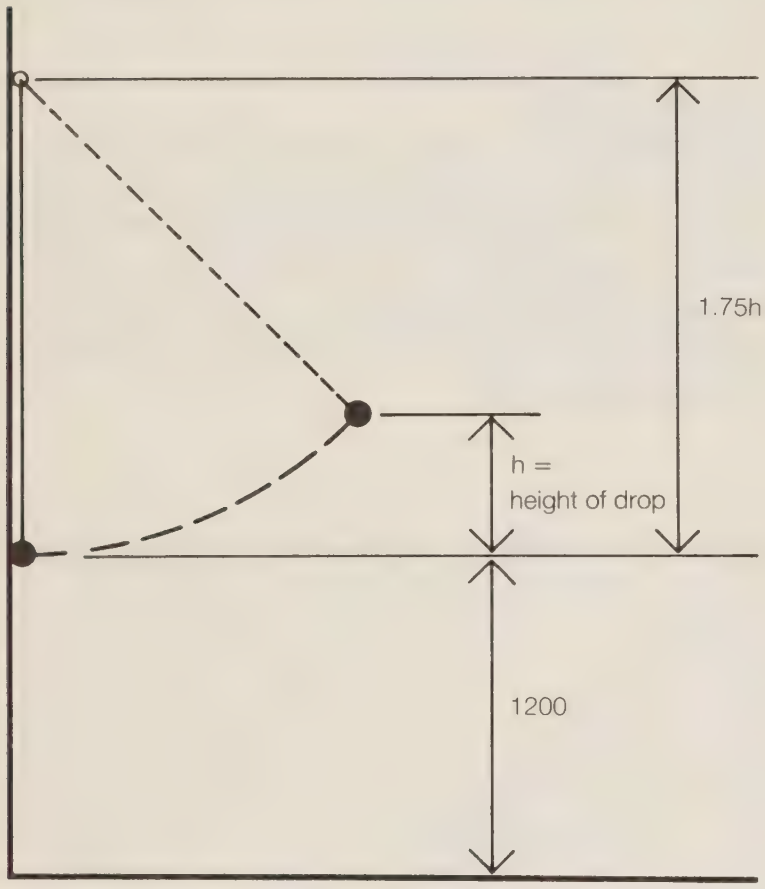
where
TF = test force (120 Nm)
W = weight of sand in bag (30 kg)
$\therefore$ h = 408

Hard body impact

Three impacts, each of 10 Nm, shall be made. The required impacts shall be made with a '1 Kg bearing' 63.5 mm diameter solid steel ball which is suspended so that when at rest the ball just touches the face of the partition. The length of the suspension shall be not less than 1.75h in the sketch below. The point of suspension must be movable so that each impact can be a different position selected at random.

Resistance to impact shall be assessed by measuring depths of indents and noting any damage or failure of the surface.

Indents shall be measured with a dial gauge calibrated in 0.01 mm increments.



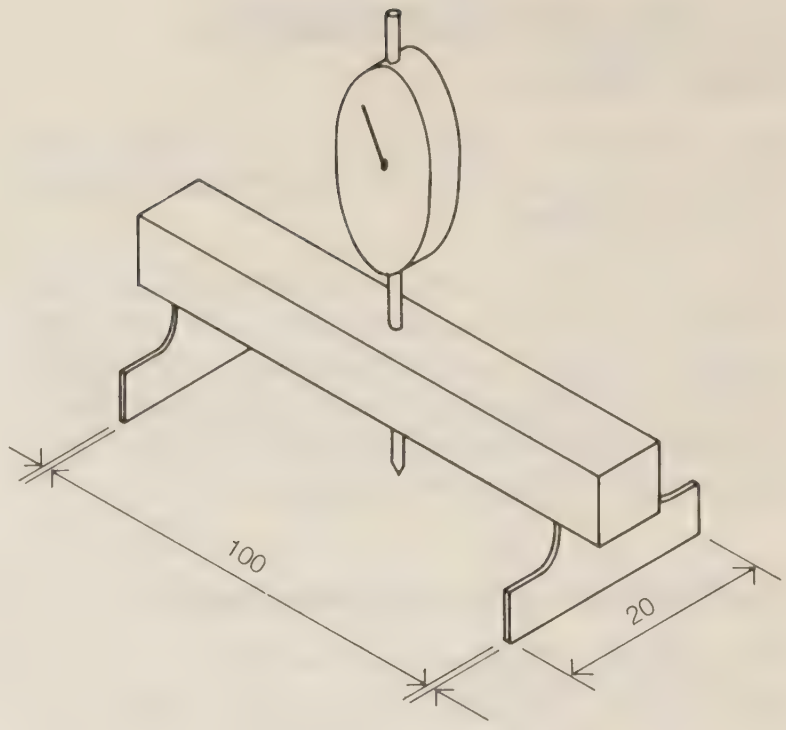
Determine height of drop (h) by formula:

$$h = \frac{TF}{9.8 \times W}$$

where
TF = Test force (10 Nm)
W = Weight of ball (1 Kg)
∴ h = 1020mm

The dial gauge shall be mounted on a bar having flattened knife edge contacts 1 to 2 mm wide at right angles to the length of the bar and which rest on the surface. The contacts shall be 100 mm apart symetrically disposed to the gauge probe and each 20 mm long. The probe shall have a ball end with a maximum diameter of 5 mm.

Indent depth shall be determined by comparing the dial gauge reading of the undisturbed surface (before impact) and the bottom of the indent.



Dial gauge mounting for hard body impact test

Door slamming

The door leaf shall be 826 x 2060 mm, and the weight shall be approximately 60 kg (symmetrically distributed about the plane of the door). The door leaf shall be hung on suitable hinges and without a door closer or other restricting device.

A light strong line shall connect the door leaf at mid height and 50mm from the closing edge to a 15 kg weight. The line shall run horizontally from the door, approximately perpendicular to the plane of the door opening, and over a pulley to the weight. The apparatus shall be arranged so that the descending weight strikes a platform and removes tension from the line when the door leaf is within 20 mm of closing.

The door leaf shall be opened 60° and released to be slammed shut by the action of the falling weight.

Fixings for fittings:

Lightweight fittings

The force set out shall be applied to a single anchorage recommended by the system sponsor for securing lightweight fittings, eg coat hooks, fire extinguishers, towel holders, etc, fixed anywhere on the partition except through a stud or other framing.

Heavyweight fixings

Additional framing as recommended by the system sponsor to support the loads shall be installed before testing.

Lavatory basins

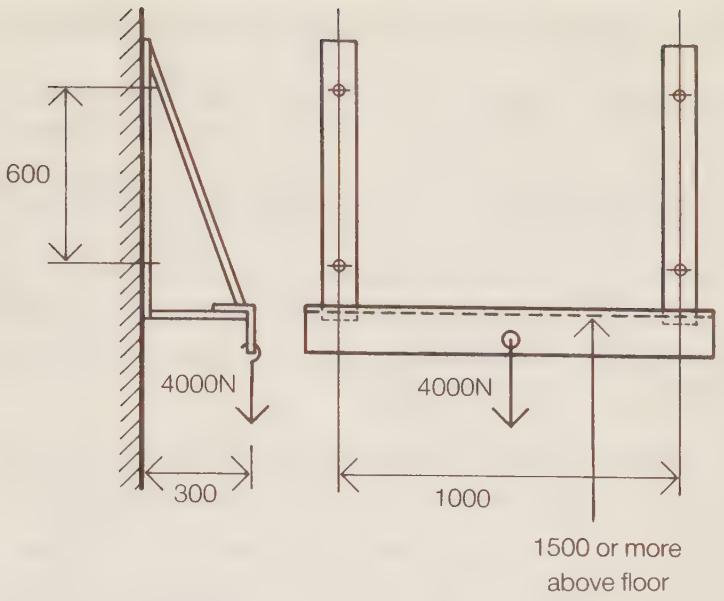
The force shall act vertically downwards, 345 mm from the face of the specimen and shall be supported on two brackets. The brackets shall be to the dimensions of a standard screw-to-wall single towel rail type to BS 1255 fixed to the specimen 500 mm apart and 900 mm above floor level. Each bracket shall be secured with three

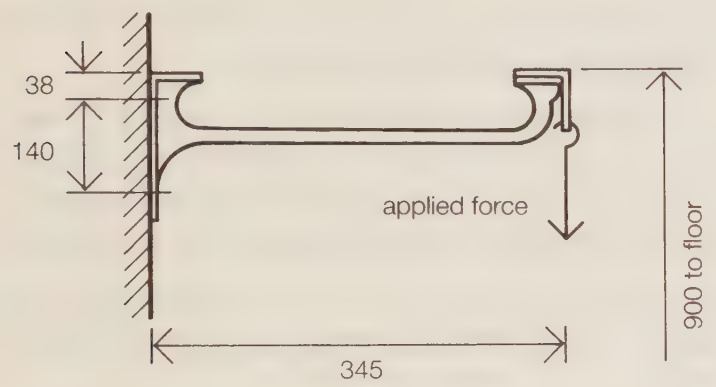
fasteners as recommended by the erector and shall be connected by a horizontal member to support the load centrally.

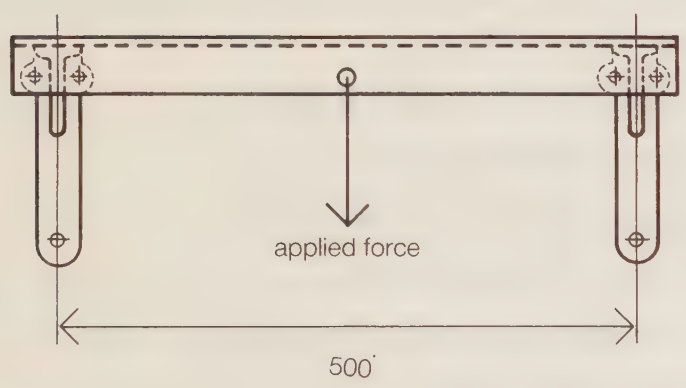
A force of 500 N shall be applied to the brackets. Additional increments of 250 N up to a total of 1500 N shall be applied and removed twice in the following manner: 500, 750, 500, 750, 500, 1000, 500, 1000, 500, 1250, 500, 1250, 500, 1500, 500, 1500.

The fixings shall be examined after each increment. Any damage shall be unacceptable.

The maximum deflection of the partition under the load shall be recorded when all movement has stabilised.







High level cupboard

Two brackets, which simulate a high level cupboard shall be fixed 1000 mm apart, 1500 mm or over from the floor to the horizontal arm and each shall be secured to the specimen with two fixings 600 mm apart vertically. The fixings shall be as recommended by the partition erector. The brackets shall be connected by a horizontal member to support the load centrally. A force of 4000 N shall act vertically downwards 300 mm from the face of the specimen. The force shall be applied in increments of 500 N. Where the method of fixing differs from the lavatory basin bracket fixing, the forces shall be applied in increments of 500 N as described.

C Additional height partitions

The overall height of partitions in health buildings is generally not more than 3600. However in special cases, such as within pitched roof spaces or in staircase enclosures greater heights often occur.

Hollow plasterboard partitions can be constructed to these heights and still comply with the standards for strength and stability laid down for partitions of 3600 and 4200 in height.

A number of alternative constructions are possible. Some of these are set out below in the Table.

Thick ness	Boards	Studs	Stud Centres and shape	Height
110	2 x 9.5	70 x 0.7	C x 600	4.8m
120	2 x 12.5	70 x 0.7	C x 600	5.0m
140	2 x 12.5	90 x 1.2	C x 600	5.4m
140	2 x 12.5	92 x 0.9	I x 600	6.0m
140	2 x 12.5	92 x 0.9	1 x 400	7.0m
200	2 x 12.5	146 x 0.55	C x 600	7.2m

Deeper floor and soffit channels may be required.

An alternative method is to use a standard 100 partition with a structural restraint at ceiling level – say 2700 above FFL. This restraint may be in the form of a substantial suspended ceiling system or by attachment of the partition to a member of a structural roof truss.

In all cases the system sponsor should be consulted at an early stage.

BS8212 gives advice on heights of independent wall linings.

Masonry partitions of additional height should comply with the recommendations of BS5628.

D National Building Specification clauses

N B S is a library of standard specification clauses, covering most kinds of building work and comprising a wide range of clauses, with accompanying guidance notes. All clauses are optional and their combination into a job specification is left to the specifier. N B S has great flexibility and it can be adapted to suit the technical needs and preferences of different projects, organisations and specifiers.

Specifications go out of date as a result of technical innovation or major review of a key BSI document. As N B S sections become affected by such major changes they are re-issued to members of the subscription service. Users are advised to ensure that they refer to the current edition.

The Sections listed below relate to the Full Version of the N B S. In addition a Small Jobs Version is available which maintains the essential principles of the N B S but offers a limited selection of clauses.

N B S Sections are set out in a easily-scanned sequence and the following are applicable to partitions:

Brick/block/stone walling

Metal mesh lathing/anchored reinforcement for plastered/coatings

Plastered/rendered coatings

Rigid sheet cladding

Plasterboard dry linings

Ceramic wall tiling

Decorative papers/fabric coverings

Painting/clear finishing

Plasterboard partitioning/lining

The above sections can be purchased from:
NBS Services Ltd.,
Mansion House Chambers,
The Close,
Newcastle upon Tyne, NE1 3RE

E Guide to selection of finishes

This schedule is intended to assist the design team in determining the performance category of surface finish for a partition in a given type of activity space.

The range of activity spaces covered by the schedule is limited to the types which most commonly occur in health buildings. For activity spaces not included the design team should refer to any listed which have similar user functions.

Index

		Page
Accident and emergency		36
Administration		36
Adult acute	– Day care and treatment	36
	– Nursing section	36
Ambulance		36
Boiler House		36
Children	– Day-patient accommodation	36
	– In-patient accommodation	36
	– Shared accommodation	37
Dental		37
Dining room		37
Educational accommodation		37
Fracture clinic		37
Geriatric care	– Day hospital	37
	– Nursing section	37
Health centre		38
Intensive therapy		38
Kitchen		38
Laundry		38
Maternity	– Administration	39
	– Central delivery suite	39
	– Nursing section	39
	– Special care baby unit and central baby feed kitchen	39
Medical photography and illustration		39
Mental illness	– Day hospital	39
	– E.C.T.	40
Mortuary and post mortem		40
Operating		40
Out-patient	– Children	40
	– Childrens Comprehensive Assessment - Type A	40
	– Childrens Comprehensive Assessment - Type B	40
	– General	40
	– Mental illness	40
	– Ophthalmic	41
Pathology		41
Pharmacy		41
Radiodiagnostic		41
Rehabilitation		41
Residential accommodation		42
Secure unit		42
Sterilising and disinfecting unit		42
Street		42
Main entrance		42
Works unit		42
Younger disabled unit		42

Department/ Activity Space	Category
Accident and emergency	
Circulation space	5
Cleaners room	5
Cleansing room/ Shower	4
Clean utility	3
Consulting	6
Dirty utility	3
Disposal	3
Drugs and alcohol recovery	3
Interview room	6
Major treatment	1
Office	6
Reception/Records	6
Resuscitation	5
Staff base	5
Store	5
Treatment	5
WC	5
Administration	
Circulation space	6
Cleaners room	5
Committee room	6
Common room	6
Interview room	6
Library	6
Office	6
Reception	6
Rest room	6
Store	5
WC	5
Adult acute - Day care and treatment	
Bathroom	4
Circulation space	5
Cleaners room	5
Clean utility	3
Consulting/ Examination	5
Doctors office	6
Dirty utility	3
Disposal	3
Major treatment	3
Multi-bed room	5
Office	6
Patient changing cubicle	5
Patient waiting	5
Shower	4
Single-bed room	5
Sitting/Recovery	5
Staff base	5
Staff changing	6
Store	5
Treatment	5
WC	5
Adult acute - Nursing section	
Bathroom	4
Circulation space	5
Cleaners room	5
Clean room	3
Cloak room	6
Day room	5
Dining room	5
Dirty utility	3
Disposal	3
Flower bay	5
Linen bay	5
Multi-bed room	5
Office	6
Pantry	4
Relatives room	5
Seminar	6
Shower	4
Single-bed room	5
Staff base	5
Store	5
Switch room	6
Treatment room	5
WC	5
Wheelchair park	5
Ambulance	
Circulation Space	5
Cleaners room	5
Control room	3
Drying room	2
Kitchen	1
Mess room	6
Office	6
Shower	4
Sluice room	2
Staff changing	6
Store	5
WC	5
Boiler house	
Boiler room	5
Calorifier room	5
Circulation space	5
Staff accommodation	6
Staff WC and washroom	5
Switch room	6
Children – Day-patient accommodation	
Circulation space	5
Clean utility	3
Dirty utility/Disposal	3
Multi-bed room	5
Pantry	4
Single-bed room	5
Treatment/Examination	5
Waiting/Play	6
WC	5
Children – In-patient accommodation	
Bathroom	4
Circulation space	5
Clean utility	3
Dirty utility	3
Flower bay	5
Linen store	5
Multi-bed room	5
Office	6
Pantry	4
Play/Dining/Education rooms	5
Shower	4
Single-bed room	5
Staff base	5
Store	5
WC	5

Department/ Activity Space	Category
Children – Shared accommodation	
Admission/Exam	5
Adolescents' day room	5
Baby feed store	5
Circulation space	5
Cleaners room	5
Disposal	3
Education space	5
Equipment bay	5
Office/Interview	6
Parents bedroom	6
Parents sitting room	6
Seminar	5
Shower	4
Staff changing	5
Staff locker room	5
Switch room	5
Teachers base	5
Treatment	5
WC	5
Dental	
Circulation space	5
Laboratory and Dark room	3
Office	6
Recovery room	5
Store	5
Surgery	3
Switch room	5
Waiting area	6
WC	5
Dining room	
Circulation space	5
Cleaners room	5
Cloak room	5
Coffee room	5
Dining room	5
Office	6
Sandwich room	5
Servery	4
Staff changing room	5
Store	5
WC	5

Department/ Activity Space	Category
Educational accommodation	
Audio-visual	5
Classroom	5
Common room	6
Demonstration	5
Dining	5
Entrance, Reception and Waiting Area	5
Seminar	6
Library	6
Office	6
Servery	4
Staff room	6
Store	5
WC	5
Fracture clinic	
Appliance fitting room	5
Clean supplies and preparation	5
Cleaners room	5
Consulting/Exam	5
Circulation space	5
Dirty utility	3
Disposal holding	3
Plaster room	3
Reception, sub-waiting and wheelchair park	5
Store	5
WC	5
Geriatric care - Day hospital	
Bathroom	4
Bedroom	5
Circulation space	5
Cleaners room	5
Clean utility	3
Clothes hanging, waiting, and wheelchair park	5
Consulting/Examination	5
Dining	5
Dirty utility	3
Disposal	3
General sitting space	5
Interview room	6
Kitchen	4
Occupational therapy	5

Department/ Activity Space	Category
Office	6
Pantry	4
Physiotherapy	3
Quiet room	5
Shower	4
Staff/Seminar room	6
Speech therapy	6
Staff cloakroom	6
Store	5
Switch room	5
Treatment room	5
Utility/Laundry	4
WC	5
Geriatric care – Nursing section	
Bathroom	4
Bathroom/Treatment	4
Circulation space	5
Cleaners room	4
Clean utility	3
Cloak room	6
Day room	5
Dining room	5
Dirty utility	3
Disposal	3
Flower bay	5
Linen bay	5
Multi-bed room	5
Occupational therapy	5
Office	6
Pantry	4
Physiotherapy	5
Relatives room	6
Seminar	5
Shower	4
Single-bed room	5
Staff base	5
Store	5
Switch room	5
Waiting area	5
WC	5
Wheelchair park	5

Department/ Activity Space	Category
Health centre	
Child assessment	6
Chiropody	5
Circulation space	5
Cleaners room	5
Consulting/Examination	5
Audiology-Consulting	5
Dental surgery	3
Dispensary	3
Disposal	3
Health education	5
Interview room	6
Kitchen/Teabar	4
Laboratory and dark room	4
Nurses service room	3
Office	6
Pharmacy	3
Physiotherapy	3
Physiotherapy (Utility area)	5
Playroom	6
Pram shelter (inside)	6
Recovery Room	5
Seminar/Library	6
Speech therapy	6
Staff common room	6
Store	5
Switch room	5
Treatment	5
WC	5
Intensive therapy unit	
Circulation Space	5
Cleaners room	5
Clean utility	3
Dirty utility	3
Disposal	3
Laboratory	3
Multi-bed room	5
Office	6
Pantry	4
Relatives/Doctors/ Overnight stay	6
Single-bed room	5
Staff base	5
Staff changing	6
Staff rest room	6
Store	5
Switch room	5
WC	5
Kitchen	
Bulk provisions store	4
Central beverage preparation space	2
Central cooking	2
Central tray preparation space	2
Central tray service space	2
Central wash-up	2
Cleaners room	5
Cooling room/Larder	4
Day to day store	4
Diet preparation	2
Disposables store	4
Equipment store	4
Fish storage	Special
General preparation	2
Kitchen cold room	Special
Kitchen deep freeze	Special
Meat cold store	Special
Office	5
Pan wash	2
Pastry and sweets preparation	2
Raw meat and fish preparation	2
Sandwich preparation	2
Staff changing	5
Staff rest room	6
Trolley parking space	2
Trolley wash	2
Vegetables, salads and fruit preparation	2
Vegetable store	4
Washing up materials store	4
WC/Washroom	5
Laundry	
Assembling, parking and despatch	6
Barrier room	4
Colandering	4
Calorifier	4
Central disinfection area	4
Classification	5
Cleaners room	5
Drying	4
Machine cloth store	5
Mess room	5
Office	6
Plant room	6
Pressing	4
Reception	5
Rest room	6
Solution preparation/ Storage area	4
Store	5
Switch room	5
Washing	5
Washing materials store	5
WC	5
Maternity - Administration	
Circulation	5
Classroom	5
Disposal	3
Office	6
Staff cloaks	6
Store	5
WC	5
Maternity - Central delivery suite	
Abnormal delivery room	1
Admission suite	1
Bathroom	4
Changing room	5
Circulation space	5
Cleaners room	5
Clean utility	3
Day room	5
Delivery room	1
Dirty utility	3
Disposal	3
Equipment store	5
Linen room	5
Office	6
Pantry	4
Scrub-up and gowning	1
Shower	4

Department/ Activity Space	Category
Staff base	5
Trolley space	5
WC	5

Maternity - Nursing section

Assisted Shower/WC/ Washing	4
Baby feed/Demonstration area	5
Bathroom	4
Circulation space	5
Cleaners room	5
Clean utility	3
Day room/Dining room	6
Dirty utility	3
Disposal room	3
Equipment store	5
Flower bay/Linen store	5
Multi-bed room	5
Nursery	5
Office	6
Pantry	4
Seminar room	5
Single-bed room	5
Staff base	5
Staff changing	6
Switch room	5
WC	5

Maternity - Special care baby unit and central baby feed kitchen

Bedroom	5
Beverage point/Baby feed demonstration	5
Blood gas analysis	5
Central milk kitchen	4
Circulation space	6
Cleaners room	6
Clean utility	3
Day room/Play room	5
Dirty utility	3
Disposal	3
Entrance/Visitors' gowning	3
Incubator nursery	3
Linen room	5
Nursery	5
Office/Interview/ Seminar room	5
Reception/Breast milk	5
Shower	4
Staff base	5
Staff changing	5
Store	5
Switch room	5
WC	5

Medical photography and illustration

Changing cubicle	5
Circulation space	5
Cleaners room	5
Dark room	3
Display	5
Editing	5
Finishing room	5
Office	6
Reproduction and copying room	5
Staff room	6
Store	5
Studio	6
WC	5

Mental illness - Day hospital

Art room	5
Beauty/Hairdressing	5
Behavioural therapy	5
Circulation space	5
Cleaners room	5
Cloak room	6
Dining room	5
Disposal room	3
Games room	6
Group therapy/Library, Music/Quiet/Sitting	6
Heavy workshop	6
Hobbies room	6
Horticulture	5
Interview room	6
Kiln room	5
Kitchen	2
Laundry	2
Light workshop	5
Observation room	5
Office	6
Patients washroom	5
Pottery room	5
Recreation store	6
Servery	2
Sitting	6
Staff/Seminar room	6
Store	5
Switch room	5
Timber store	6
Treatment/Clean utility	3
WC	5

Mental illness - ECT

Ante-Room	5
Reception/Circulation space	5
Disposal room	3
Recovery room	5
Store	5
Treatment room	5
Washroom/Assisted WC	5

Mortuary and post mortem

Attendants' room	5
Bier room	5
Body store/Trolley bay	5
Circulation space	5
Cleaners room	5
Clean stock	5
Compressor and switch room	5
Instruments	5
Linen room	5
Medical observation room	5
Office	6
Pathologists changing room	5
Post mortem room	1
Refrigerated chambers	Special
Shower	4
Sluice	3
Specimen room	5

Department/ Activity Space	Category
Viewing cubicle	5
Viewing room	5
Visitors entrance	5
Waiting room	5
WC	5

Operating

Anaesthetic room	1
Beverage bay	5
Central store	5
Changing room	5
Circulation space	3
Clean corridor	3
Clean utility	3
Dirty Utility	3
Disposal, Holding or Collection	3
Entrance/Reception/ Transfer area	3
Equipment store	5
Exit bay	3
Office	5
Operating theatre	1
Outer corridor	3
Plaster room	3
Post operative recovery area	3
Preparation	1
Scrub-up	1
Shower	3
Staff control base	5
Staff rest room	5
Switch room	5
WC	5
X-ray processing	5

Out-patient – Children

Circulation space	5
Consulting/Examination	5
Dirty utility	3
Mother & Baby room	5
Office	6
Pram/Wheelchair area	5
Treatment room	5
WC	5
Weighing/Measuring room	5

Outpatient – Childrens Comprehensive Assessment Type A

Assessment/Observation/ Remedial therapy/ Treatment rooms	5
Office/Seminar	6
Store	5
Viewing	5
Waiting/Dining room	5

Type B

Assessment/Observation/ Remedial therapy/ Treatment rooms	5
Circulation space	5
Consulting/Examination	5
Dirty utility	3
Office	6
Office/Seminar	6
Pram store/Wheelchair park	5
Staff locker room	6
Store	6
Switch room	6
Viewing room	5
Waiting/Dining room	5
WC	5

Out-patient – General

Consulting/Examination	5
Changing cubicle	5
Circulation space	5
Cleaners room	5
Clean utility	3
Dirty utility	3
Disposal	3
Office	6
Ophthalmic room	5
Porters room	6
Reception	5
Store	6
Test room	5
Treatment room	5
Trolley & Wheelchair area	5
WC	5

Out-patient – Mental illness

Assisted washroom and WC	5
Circulation space	5
Patients cloakroom	6
Consulting/Examination	5
Dirty utility/Disposal	3
Interview room	6
Medical records	6
Office	6
Psychological testing room	5
Staff changing	6
Store	6
Treatment/Clean utility	3
WC	5

Out-patient – Ophthalmic

Circulation space	5
Cleaners room	5
Clean utility	3
Consulting/Examination	5
Dark room	3
Dirty utility	3
Dispensing optician	5
Fluorescein Angiography	5
Office	6
Orthopist	5
Staff base	5
Locker room	6
Store	6
Switch room	6
Treatment room	5
Waiting/Recovery area	5
Patients WC	5
Staff WC	5

Pathology

Blood Bank	Special
Centrifuge room	3
Circulation space	5
Cleaners room	5
Cloak room	6
Disposal room	3
Examination room	3
Hot/Cold room	Special
Laboratory	3

Department/ Activity Space	Category
Media room	5
Mounting/Preparation	5
Museum	5
Office	6
Staff room	6
Sterilising room	3
Store	6
Waiting area	5
Wash-up	5
WC	5
Workshop	5

Pharmacy

Advisory cubicle	5
Aseptic filling	1
Aseptic room	1
Balance room	1
Bottle preparation	1
Changing room/Robing/ Interchange area	1
Chemicals store	5
Circulation space	5
Cleaners room	5
Cloak room	6
Container preparation	5
Containers - clean	5
Dispensary	3
Dressing store	5
Drug information library	5
Emergency store	6
Equipment cleaning	6
Finished products store	5
Finished products quarantine store	3
Flammable store	Special
Goods reception	5
Incubation	1
Incoming materials (Quarantine)	1
Inspection/Label/ Preparation/Labelling	3
Laboratory	3
Laundry facility	4
Materials store	5
Media kitchen	4
Medical gas cylinder store	5
Microbiological media store	5
Office	6
Packaging and overwrap	5
Patient waiting	5
Porters room/Base	5
Preparation/Filling area	1
Preparation room	1
Reference samples store	5
Repackaging	5
Reusable container collection	5
Security store	5
Seminar	6
Staff entrance	6
Sterilisation	1
Still room	1
Store	5
Trolley and equipment park	5
Ward service area	5
WC	5

Radiodiagnostic

Circulation space	5
Cleaners room	5
Clean utility	3
Dark room	2
Dirty utility	3
Disposal	3
Dressing cubicle	5
Lavage room	4
Linen store	5
Mobile X-ray store	6
Office	6
Radiodiagnostic room	5
Radiographer	6
Records	6
Recovery room	5
Staff room	6
Store	6
Trolley space	5
Ultrasound	5
Viewing and sorting room	5
WC	5

Rehabilitation

Apparatus bay	5
Hydrotherapy apparatus bay	4
Apparatus store	5
Bathroom	4
Bedroom	6
Gymnasium changing cubicle	5
Hydrotherapy changing cubicle	4
Treatment changing cubicle	5
Circulation space	5
Cleaners room	5
Clinical room	3
Consulting/Examination	5
Disposal room	3
Electronyography room	5
Gymnasium	5
Heavy workshop	5
Hydrotherapy	4
Individual open exercise area	5
Interview room	6
Kitchen	4
Laundry	4
Light workshop	5
Main waiting	5
Patients shower	4
Plaster and plaster splints	5
Porters base	5
Preparation bay	5
Reception/Records/ Office	5
Recovery room	5
Speech therapy	6
Staff changing	6
Staff room/Seminar	6
Store	6
Switch room	6
Timber/Materials store	6
Treatment cubicle	5
Wax treatment room	5
WC	5
Wheelchair bay	5

Department/ Activity Space	Category

Residential accommodation

Bathroom	4
Bedroom	6
Bed-sitting room	6
Circulation space	5
Cleaners room	5
Cloak room	6
Common room	6
Kitchen	4
Living room	6
Office	6
Shower	4
Sitting room	6
Utility store	6
WC	5

Secure unit

Bathroom	4
Circulation space	5
Classroom	6
Clinical/Examination	5
Cleaners room	5
Communal area	6
Duty room	6
Group therapy	6
Gymnasium	6
Interview/Conference	6
Kitchen	4
Launderette/Utility	3
Library	6
Linen store	5
Office	6
OT Hobbies room	6
Quiet room	6
Secure room	3
Shower	4
Single-bed room	6
Staff rest room	6
Store	6
Study room	6
Training room	6
Visitors Room	6
WC	5

Department/ Activity Space	Category

Sterilising and disinfecting unit

Circulation space	5
Cleaners room	5
Disposal collection	5
Disposal holding area	5
Materials holding store	5
Medical equipment test area Service/Work area	5
Office	6
Reception – Clean supply	5
Reception – Soiled goods	5
Staff changing	6
Staff room	6
Sterile goods store	5
Sterilizer working area	1
Trolley unloading,/ Maintenance area	5
Trolley wash	4
Wash room	5
WC	5
Work area	5

Street

Circulation	6
Sub-Waiting	6
Stairs	6
Lift lobby	6
Disposal room	3

Main entrance

Entrance lobby	5
Entrance foyer/waiting	6
Quiet room	6
Reception/enquiries	6
Shop	5
Store	5
Office	6
Admissions	6
Duty room	6

Department/ Activity Space	Category

Works unit

Circulation space	5
Office	6
Staff accommodation	6
Staff changing	6
Store	6
WC	5
Workshop	6

Younger disabled unit

Bathroom	4
Bedroom	6
Circulation space	5
Clean utility	3
Cleaners room	5
Clinical/Examination	5
Day space	5
Dining room	5
Dirty utility	3
Hobbies room	5
Office	6
Pantry	4
Quiet room	6
Shower	4
Store	6
Visitors room	6
WC	5

Physical and performance characteristics	Categories of performance of finishes					
	1	2	3	4	5	6
Impervious	•	•	•	•		
Jointless	•	•	•			
Smooth	•	•	•	•		
Moisture resistance:						
high humidity		•		•		
normal humidity	•		•		•	•
Cleaning routine						
A	•					
B		•	•			
C				•	•	
D						•

The finishes listed below are suggested as the minimum acceptable for the categories indicated:

Wall finish	Categories of performance of finishes					
	1	2	3	4	5	6
Liquid coverings						
Epoxy coating	•	•	•	•		
Paint:						
Emulsion – matt, silk					•	•
Oil – gloss	•	•	•	•	•	•
– semi-gloss, eggshell					•	•
Vinyl – gloss					•	•
Polyurethane coating	•	•	•	•		
Spray elastomeric vinyl compound	•	•	•	•		
Spray paint (multi-colour) gloss	•	•	•	•	•	•
Flexible pre-formed coverings						
Cloth backed vinyl covering	•	•	•	•		
Paper backed vinyl					•	•
Pvc sheet 1mm thick with welded joints	•	•	•	•		
Wall paper						•
Wall paper with spongeable surface					•	•
Hard pre-formed coverings						
Ceramic tiles –						
cement grouting				•		
epoxy grouting	•	•	•			
Plastic laminate with sealed joints	•	•	•			

References

Other DoH data
Activity Data Base
Ergonomic data
Health Building Notes
Health Design Notes
Health Technical Memoranda
Nucleus Hospitals

Statutory legislation
The Building Regulations
The Institute of Electrical Engineers Wiring Regulations

British Standard Specifications and Codes of Practice

BS 476 Fire tests on building materials and structures:
Part 4: Non-combustibility test for materials
Part 6: Method of test for fire propagation for products
Part 7: Surface spread of flame tests for materials
Part 8: Test methods and criteria for the fire resistance of elements of building construction
Part 22: Determination of the fire resistance of non-loadbearing elements of construction (to supersede Part 8 when published)

BS 1191 Part 1: Gypsum building plasters excluding premixed lightweight plasters

BS 1230 Part 1: Gypsum plasterboard

BS 2750 Methods of measurement of sound insulation in buildings and of building elements

BS 2782 Methods of testing plastics

BS 2881 Cupboards for the storage of medicines

BS 2989 Continuously hot-dip zinc coated and iron-zinc alloy coated steel: wide strip, steel plate, and slit wide strip

BS 4011 Recommendations for the co-ordination of dimensions in building. Co-ordinating sizes for building components and assemblies

BS 4022 Prefabricated gypsum wallboard panels

BS 4330 Recommendations for the co-ordinating of dimensions in building. Controlling dimensions

BS 5234 Code of practice for internal non-loadbearing partitioning

BS 5268 Structural use of timber

BS 5492 Internal plastering

BS 5588 Code of practice for fire precautions in the design of buildings; Part 4: Smoke control in protected escape route using pressurisation

BS 5628 Code of practice for use of masonry, Part 3: Materials and components, design and workmanship (supersedes CP121 Part 1: Brick and block masonry)

BS 5803 Thermal insulation for pitched roof spaces in dwellings Part 1: Specification for man-made fibre thermal insulation mats

BS 5821 Method for rating sound insulation in buildings and of building elements.

BS 6203 Guide to fire characteristics and fire performance of expanded polystyrene used in building applications

BS 6214 Specification for jointing materials for plasterboard

BS 6399 Design loading for buildings Part 1: Code of practice for dead and imposed loads (supersedes CP3 Chapter V: Loading Part 1: Dead and imposed loads)

BS 6452 Part 1: Specification for galvanised steel beads.

BS 8212 Code of Practice for drylining and partitioning using gypsum plasterboard

CP3 Code of basic data for the design of buildings, Chapter III: Sound insulation and noise reduction, Chapter V: Loading, and Part 2: Wind loads

CP290 Code of Practice for suspended ceilings and linings of dry construction using metal fixing systems (currently under revision as a new BSS)

Index of Guidance Amendment No IGAN 21 (for internal use)
The following documents are cancelled by the contents of this document:
CDB Mk 3 : MDB 3/1.

Printed in the United Kingdom for Her Majesty's Stationery Office
Dd290279 11/89 C40 G3390 10170

HMSO BOOKS

HMSO publications are available from:

HMSO Publications Centre
(Mail and telephone orders only)
PO Box 276, London, SW8 5DT
Telephone orders 01-873 9090
General enquiries 01-873 0011
(queuing system in operation for both numbers)

HMSO Bookshops
49 High Holborn, London, WC1V 6HB 01-873 0011 (Counter service only)
258 Broad Street, Birmingham, B1 2HE 021-643 3740
Southey House, 33 Wine Street, Bristol, BS1 2BQ (0272) 264306
9-21 Princess Street, Manchester, M60 8AS 061-834 7201
80 Chichester Street, Belfast, BT1 4JY (0232) 238451
71 Lothian Road, Edinburgh, EH3 9AZ 031-228 4181

HMSO's Accredited Agents
(see Yellow Pages)

and through good booksellers

£4.80 net

ISBN 0 11 321259 3